ArcGIS Desktop Tips & Tricks
9.3.1

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Agenda

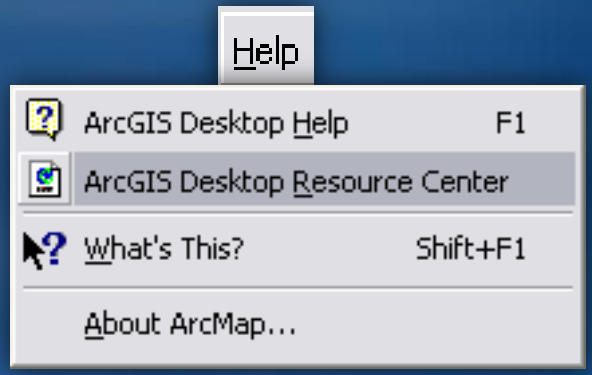
- General Topics
- ArcMap & Cartography Tips and Tricks
- Data Sharing
- Editing Tips and Tricks
- Map Optimization in ArcGIS 9.3.1

General Topics

- ESRI Resource Center
- ArcGIS Desktop Help
- ArcCatalog Tips and Tricks
- ArcMap Tips and Tricks

ArcGIS Desktop Resource Center

- Accessible from ArcMap & ArcCatalog
- Data templates and layers for download
- Knowledge Base & ArcGIS Desktop Web Help



http://resources.esri.com/arcgisdesktop

BOOKMARK ME!

ArcGIS Desktop Help

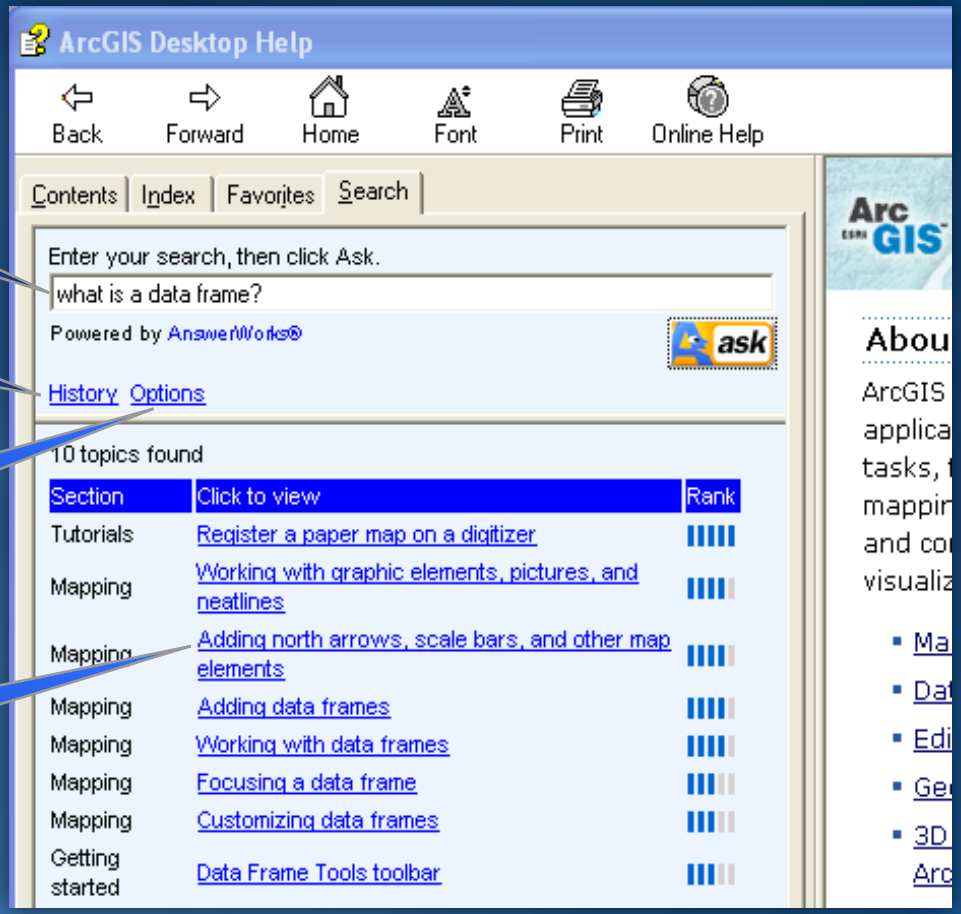
- Indexing and search capabilities
- Quick search

Type a search term then click Ask

Repeat a previous search

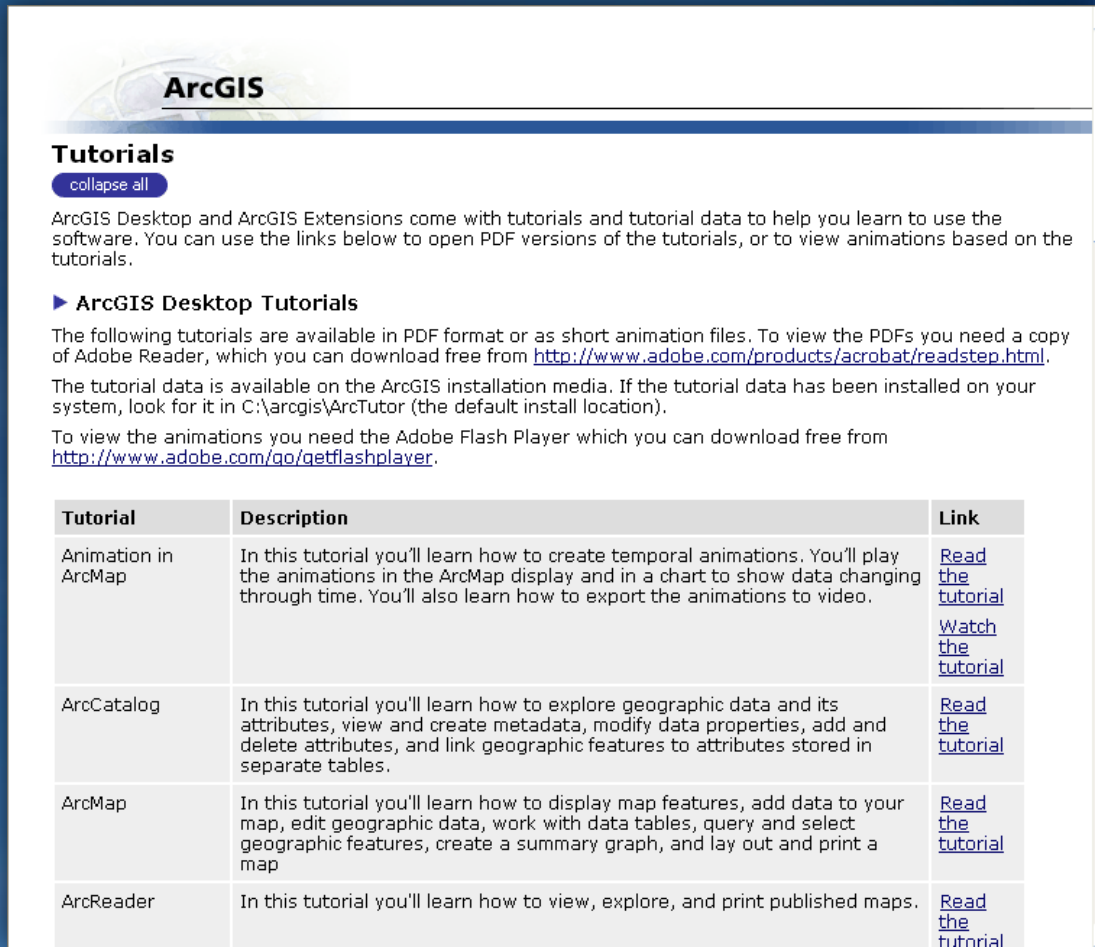
Limit what is searched

Click a link to view the topic



Tutorials

- PDFs and animations are automatically installed with ArcGIS Desktop
- Data installed separately
- Open from the Desktop or Web Help



ArcGIS

Tutorials

collapse all

ArcGIS Desktop and ArcGIS Extensions come with tutorials and tutorial data to help you learn to use the software. You can use the links below to open PDF versions of the tutorials, or to view animations based on the tutorials.

▶ ArcGIS Desktop Tutorials

The following tutorials are available in PDF format or as short animation files. To view the PDFs you need a copy of Adobe Reader, which you can download free from http://www.adobe.com/products/acrobat/readstep.html.

The tutorial data is available on the ArcGIS installation media. If the tutorial data has been installed on your system, look for it in C:\arcgis\ArcTutor (the default install location).

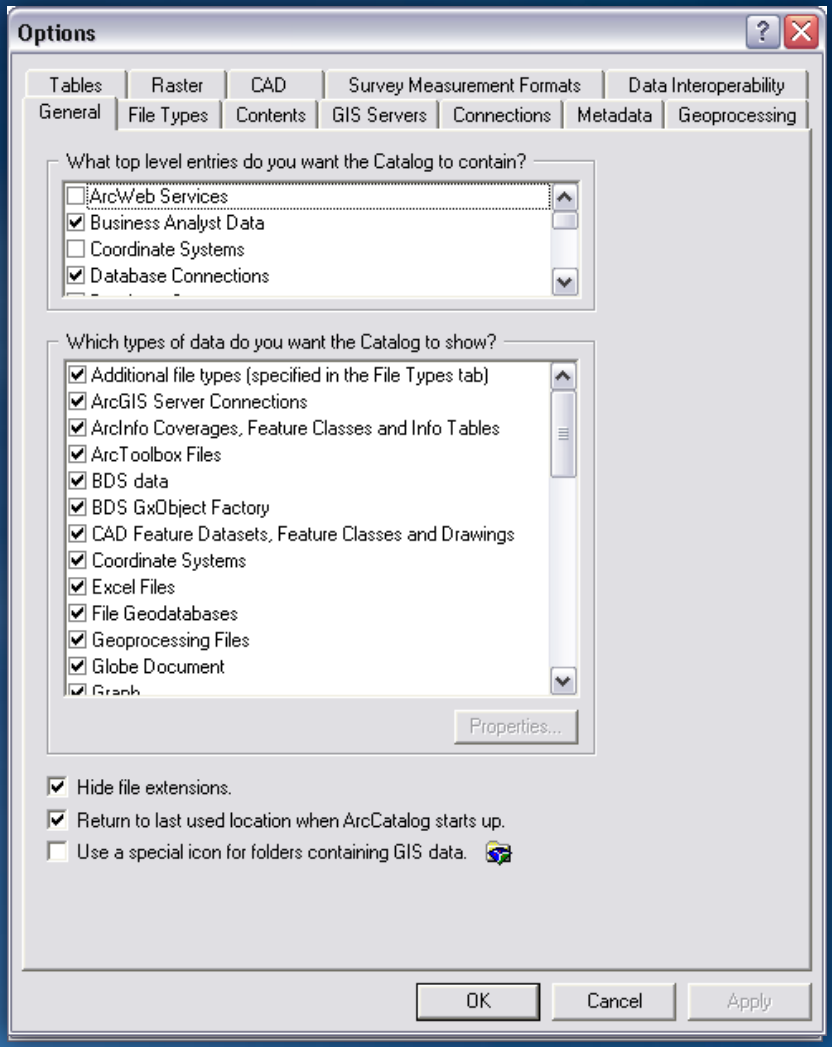
To view the animations you need the Adobe Flash Player which you can download free from http://www.adobe.com/go/getflashplayer.

Tutorial	Description	Link
Animation in ArcMap	In this tutorial you'll learn how to create temporal animations. You'll play the animations in the ArcMap display and in a chart to show data changing through time. You'll also learn how to export the animations to video.	Read the tutorial Watch the tutorial
ArcCatalog	In this tutorial you'll learn how to explore geographic data and its attributes, view and create metadata, modify data properties, add and delete attributes, and link geographic features to attributes stored in separate tables.	Read the tutorial
ArcMap	In this tutorial you'll learn how to display map features, add data to your map, edit geographic data, work with data tables, query and select geographic features, create a summary graph, and lay out and print a map	Read the tutorial
ArcReader	In this tutorial you'll learn how to view, explore, and print published maps.	Read the tutorial

ArcCatalog and ArcMap Tips and Tricks

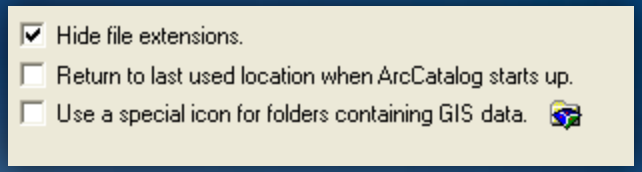
ArcCatalog: Options

- Tools > Options
  - Improve performance when browsing for data
  - Display more information in the Contents tab
  - Change geoprocessing options



ArcCatalog Tips and Tricks

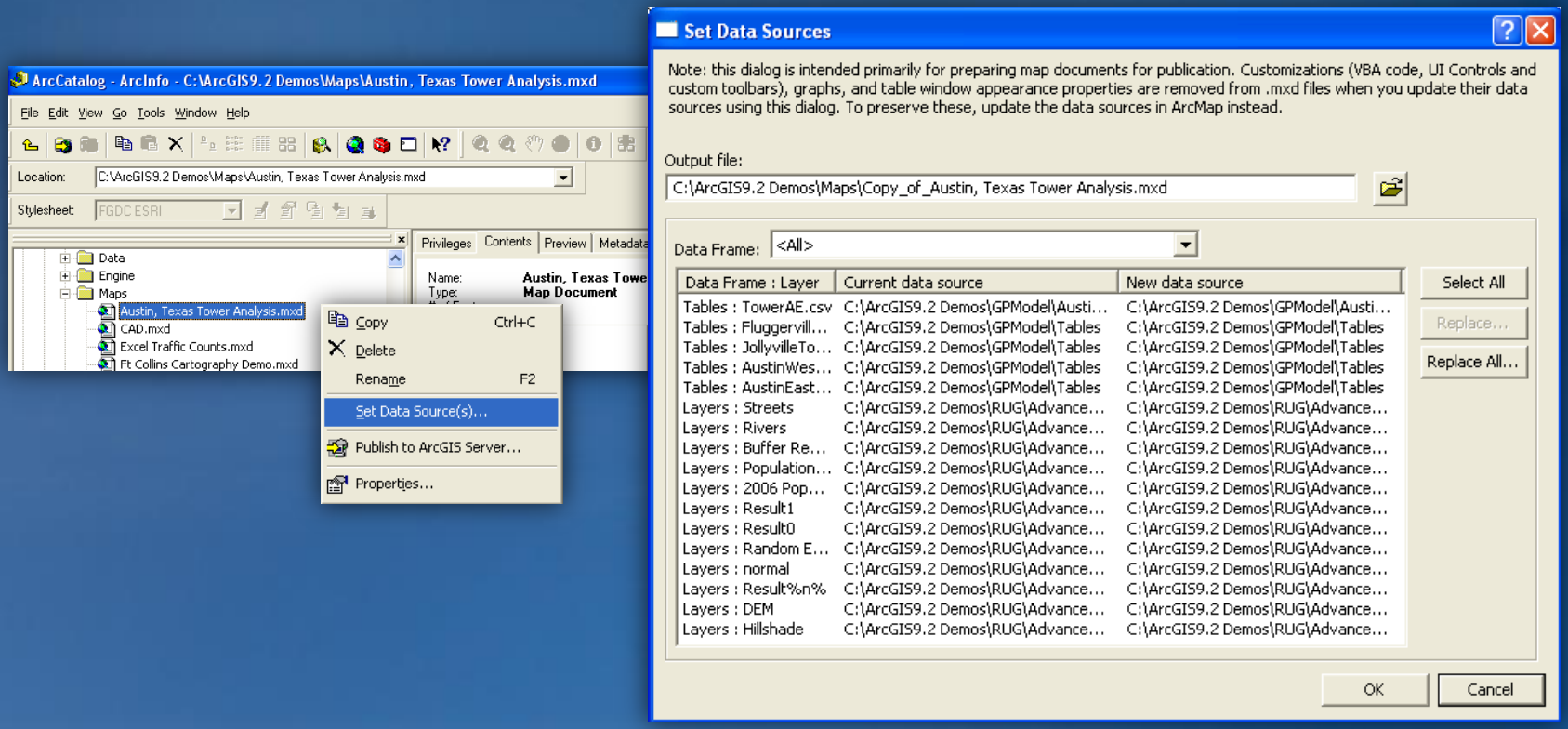
- Performance
  - Limit folder connections
  - Turn off unnecessary data types
  - Avoid using “Return to last used location…”
  - Avoid option to show folders with special GIS data icon
- Hidden tricks
  - Rename folder connections
  - Drop folder onto the ‘Catalog’ root to create new connections
  - Sort Contents tab by feature type of the data



(Tools>Options)

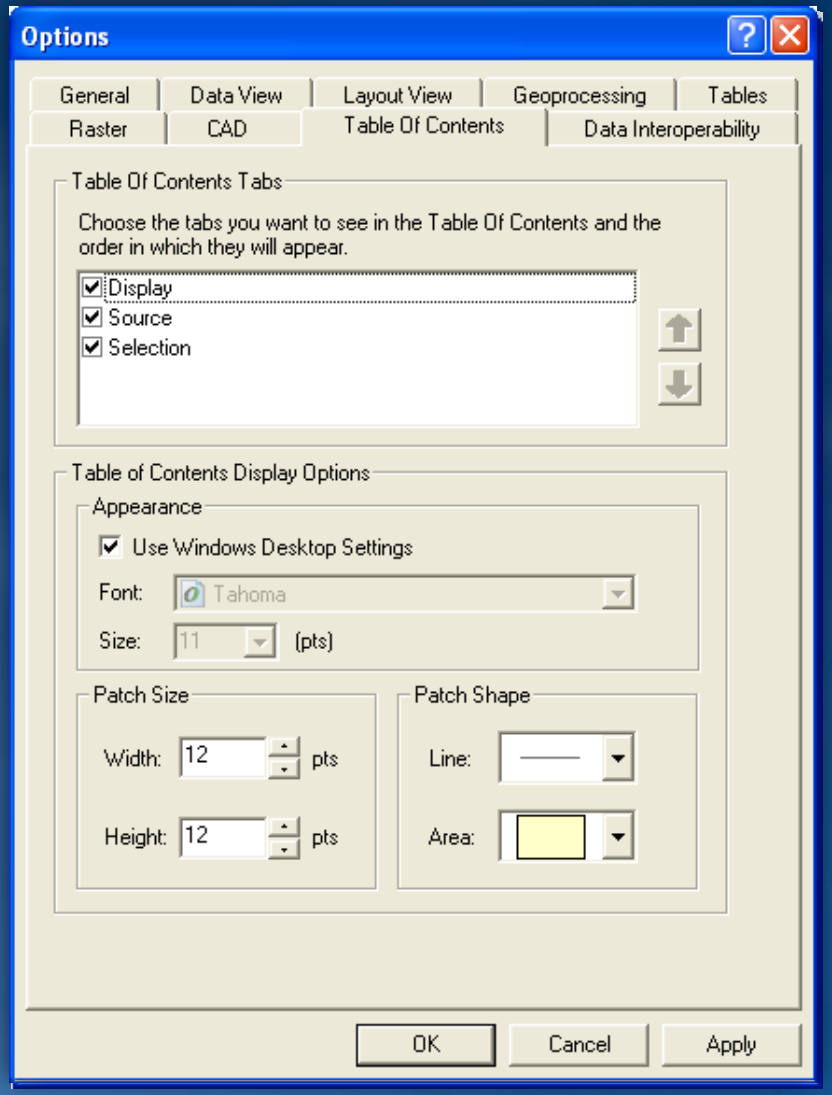
ArcCatalog: Set Data Sources

- Right-click on MXD > Set Data Source(s)…
  - Works with all data sources
  - Setting here saves time when opening map with broken data sources



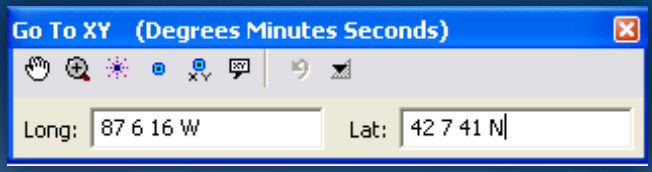
ArcMap: Options

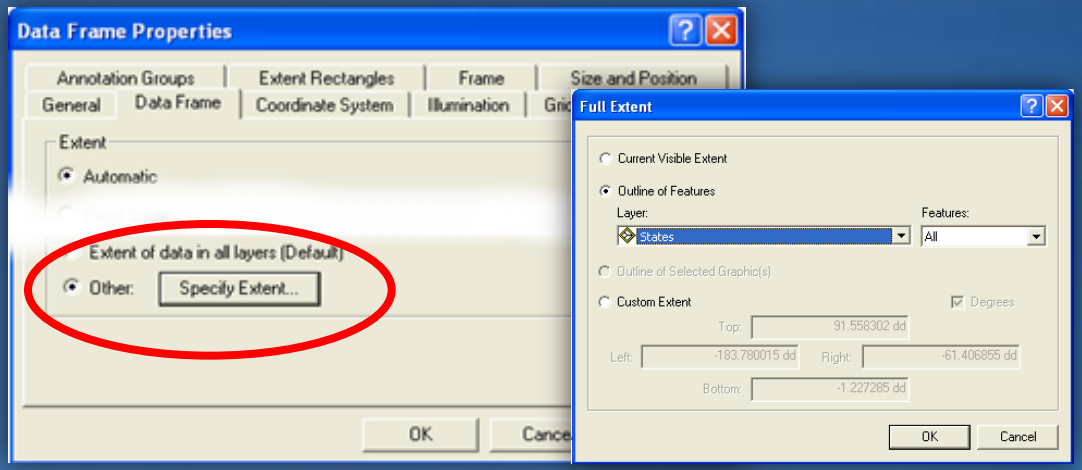
- Tools > Options
  - Display settings
  - Control layout appearance
  - Modify table properties
  - Customize Table of Content symbols
  - Zoom/Pan tool options

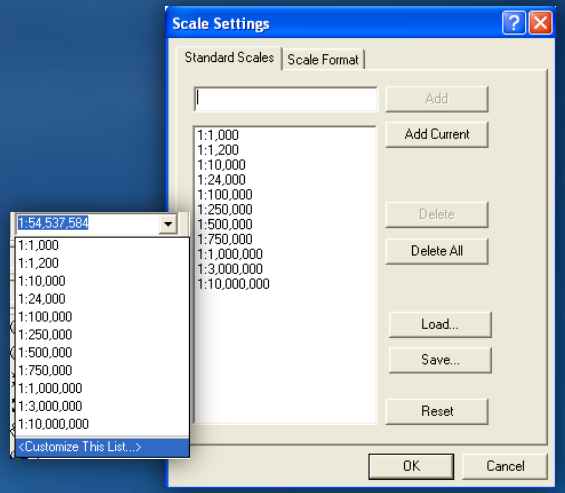


ArcMap Tips and Tricks

- **Productivity**
  - **Navigation tools:**
    - **Go To XY command**
    - **Keyboard shortcuts to change tools (e.g. Z = Zoom In)**
    - **Customizable Scale**
    - **Identify Tool**
    - **Bookmark Manager**

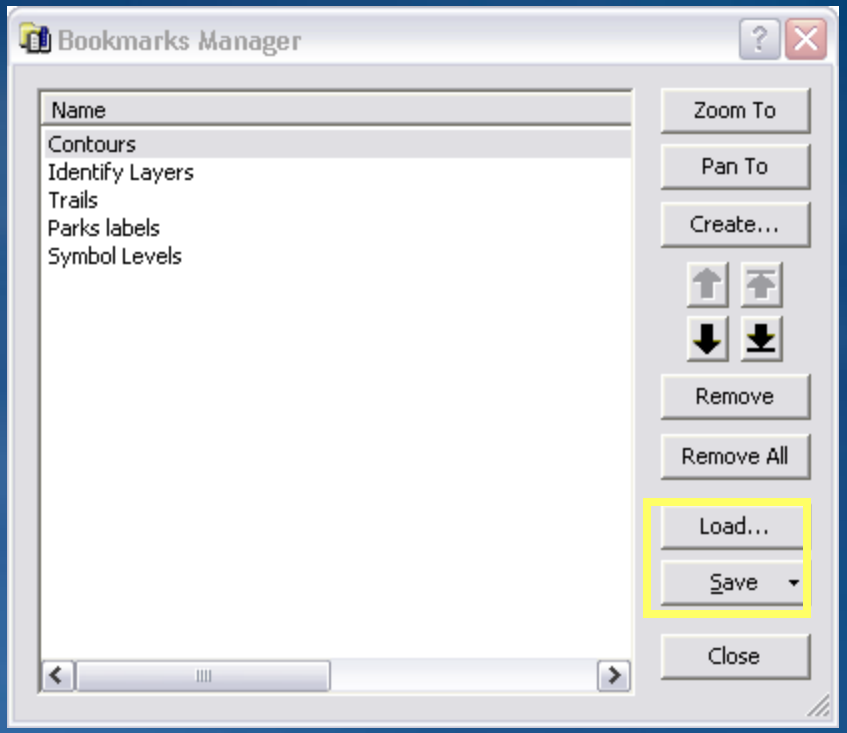






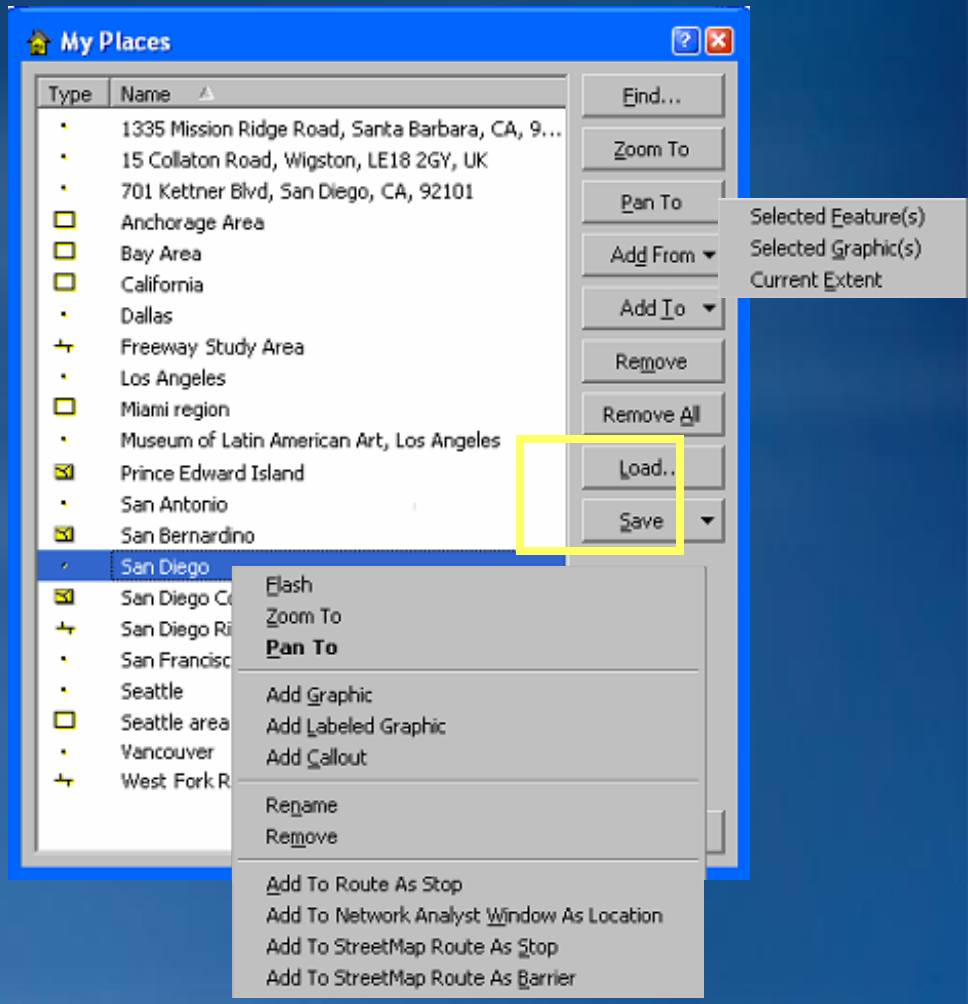
Bookmarks Manager

- Bookmarks now on main toolbar
- Re-Order and Load/Save
- Share with other users



My Places

- ArcMap > Tools > My Places
- "My Places.dat"
  - User docs/settings
- Share with other users
- Not specific to a document or data frame, but to the user
- Similar to Bookmarks at 9.3
  - First introduced at 9.2



ArcMap Advanced Settings

- Located in *%ArcGIS Install%\Utilities* folder
- Safe access to ArcMap settings not available in the interface
- A detailed document describes each registry key
- Some items need administrative privileges

Demonstration #1

Questions?

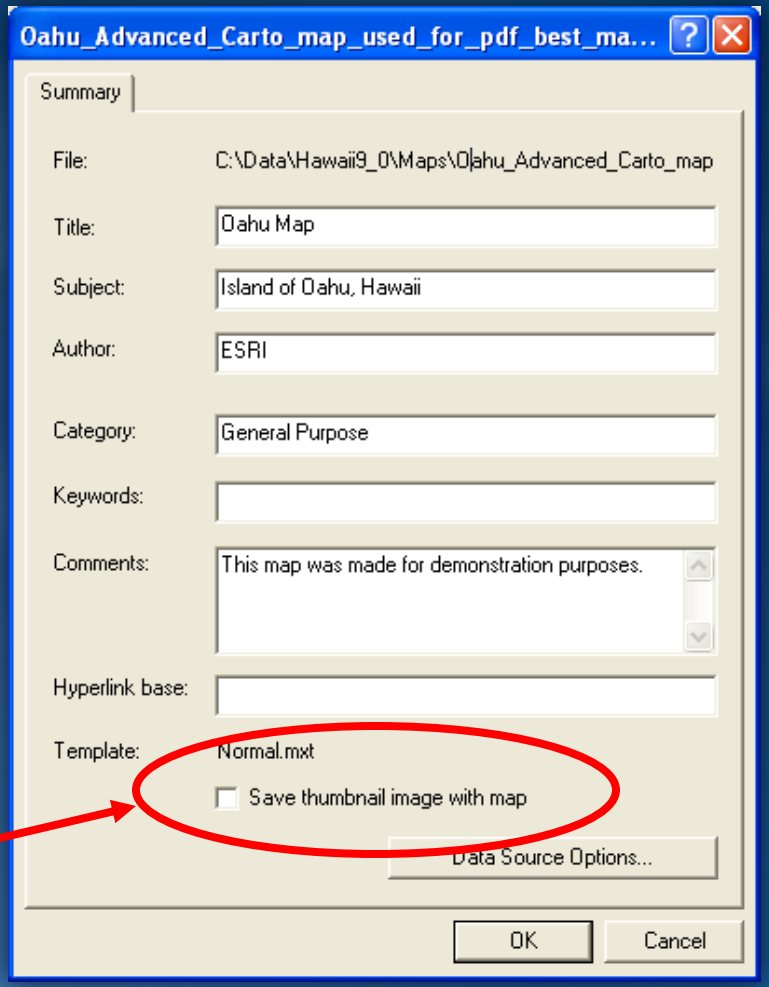
ArcMap & Cartography Tips and Tricks

- Maps and Layer management
- Labeling and Annotation
- Cartographic Representations
- Sharing Maps

Managing Map Documents

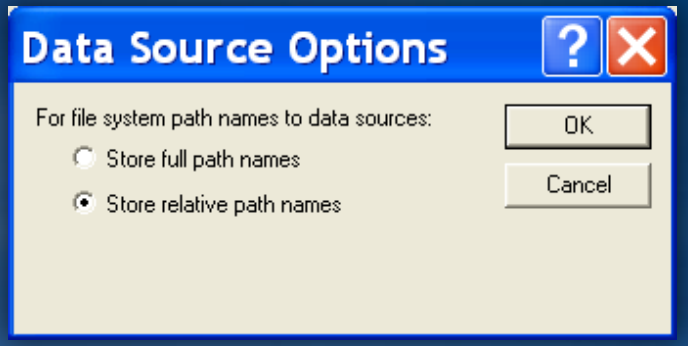
- File > Document Properties > Uncheck ‘Save thumbnail image with map’ for smaller .mxd file size and faster saves
- File > Save As to save to new file
  - Reduces file size
- File > Save a Copy to create a backwards compatible .mxd file (e.g. 9.1, 9.0, 8.3)

Save time when saving .mxd

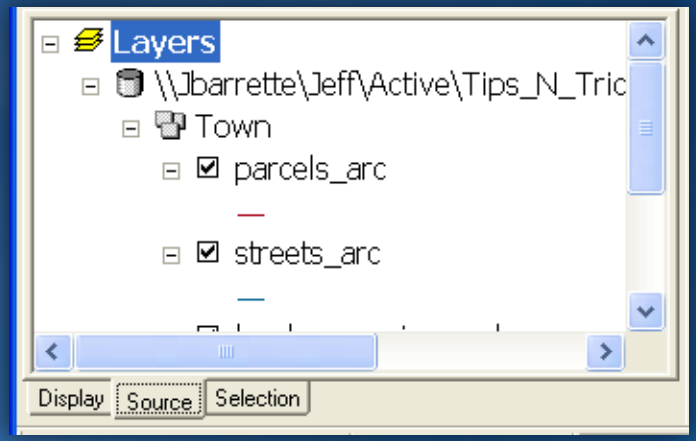


Relative Paths

- Easier to package data
  - File > Map Properties > data source options



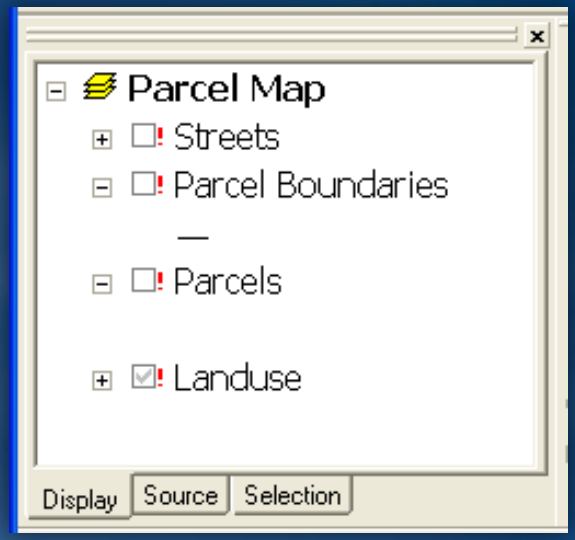
- UNC paths work well for people on the same network
  - Add folder via my network neighborhood



Repairing Broken Links

(or for existing layers that have updated extents or new file location)

- **Repair a single layer via Layer properties > Source tab**
- **Repair multiple layers:**
  - **Click on red exclamation**
  - **Layer context menu > Data > Set data source**
- **Set MXD data sources via ArcCatalog**

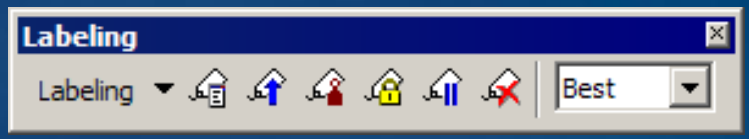


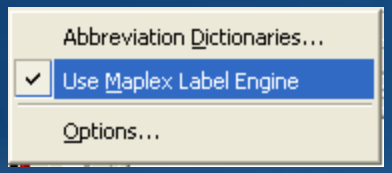
Layer Files

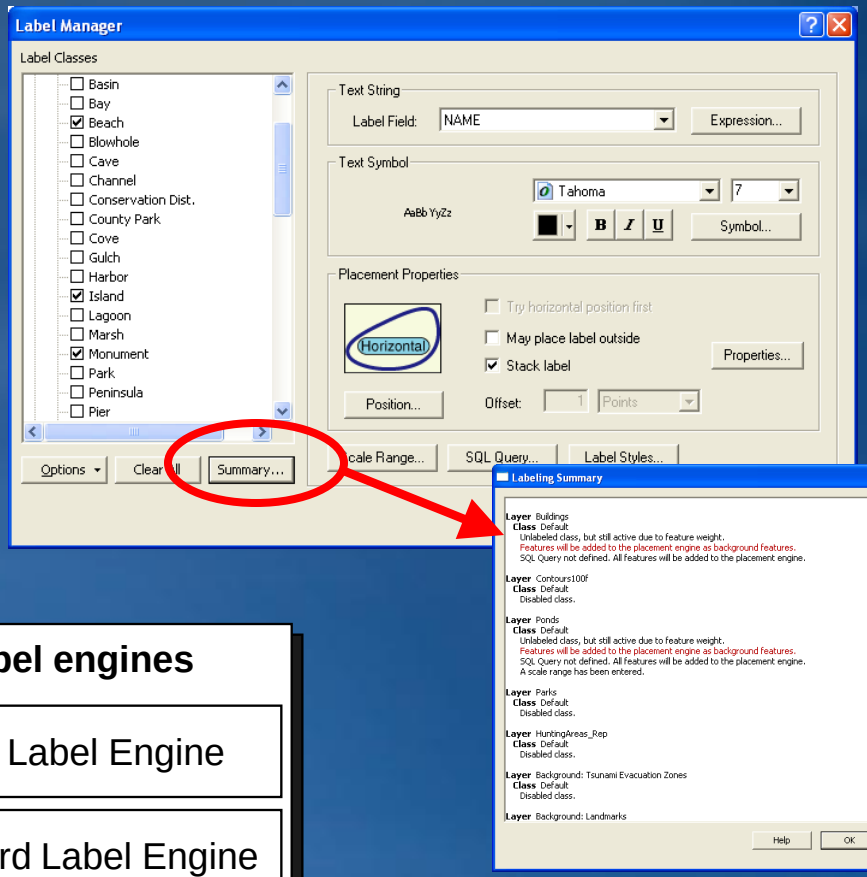
- Reference to a data source
- Defines how data should be symbolized on a map
- Import symbology from a layer
- Easy to reuse
- Stored in map documents (.mxd) or saved individually (.lyr)
- Can be stored with relative paths

Labeling

- Labeling Toolbar and Label Manager save clicks
- Show unplaced labels Label toolbar > Options
- Pause Labels
- Summary Tool: Dialog specifies all rules and indicates potential problems







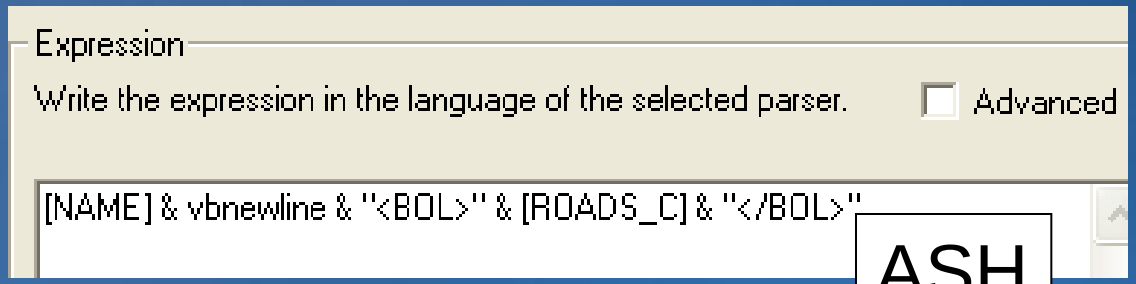
ESRI label engines

Maplex Label Engine

Standard Label Engine

Label Expressions / Format Tags

- Change the appearance to the entire string with label expressions
- Modify portion of the string with format tags
- Works throughout the application
  - Inserted text, tables, layer properties, etc



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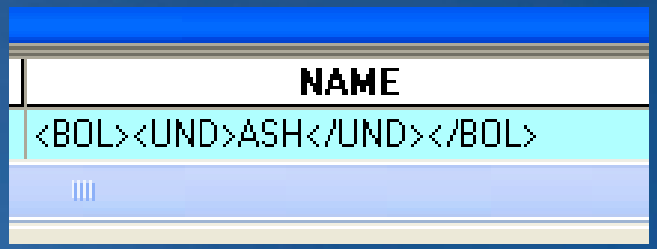
23



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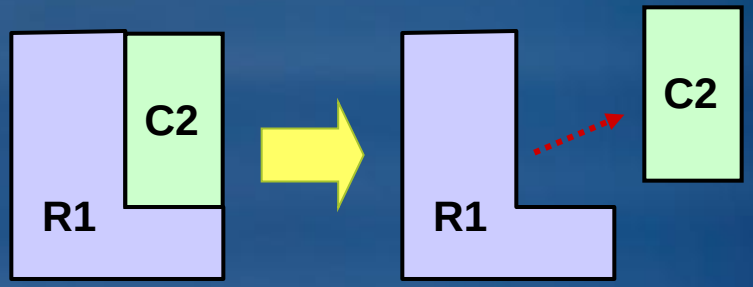
Labels versus annotation

- **Map *text* in ArcGIS can be labels or annotations**
- **Text is a value from an attribute field**

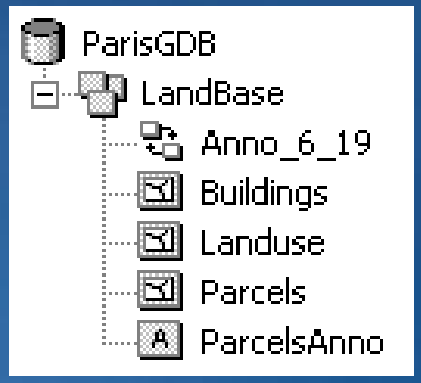
Labels	Annotation
Dynamically placed	Static: Manually positioned
Managed as a group	Managed individually
Stored in map document or layer file	Stored in map document or geodatabase
Always linked to feature	May or may not be linked to feature

Geodatabase annotation

- Feature class that contains specialized text features
  - Properties include reference scale and symbology
  - May change properties of individual annotation features
  - May have multiple annotation classes (subtypes)
  - Edit same as features
- Two types
  - **Standard:** Stand-alone text
  - **Feature-linked:** Text from related feature attribute table

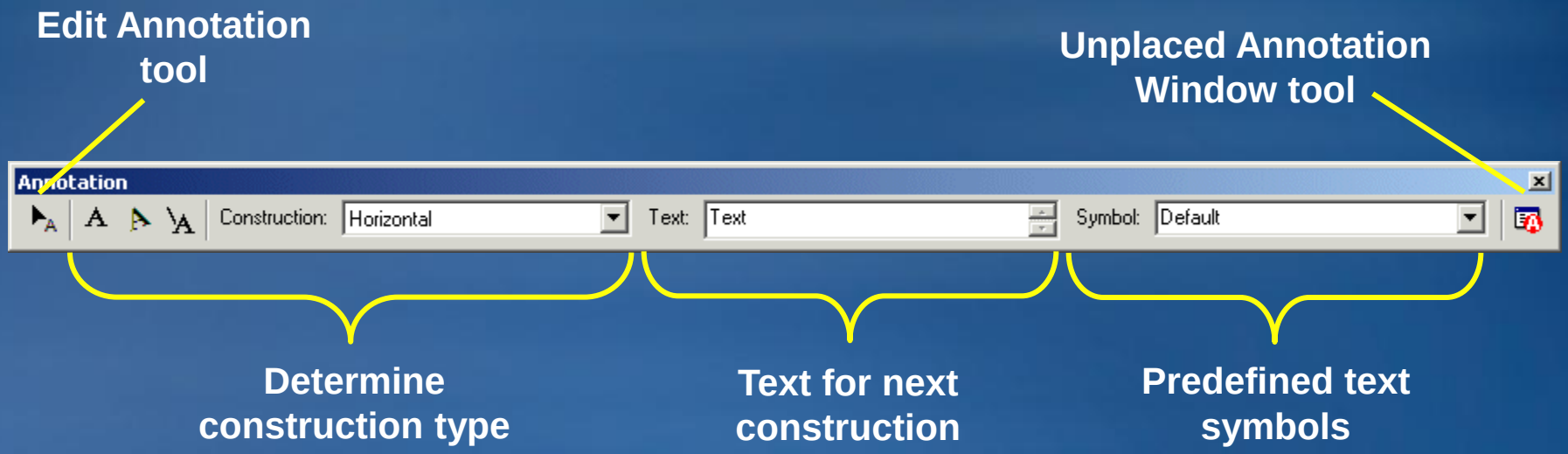


Feature-linked annotation



Annotation toolbars

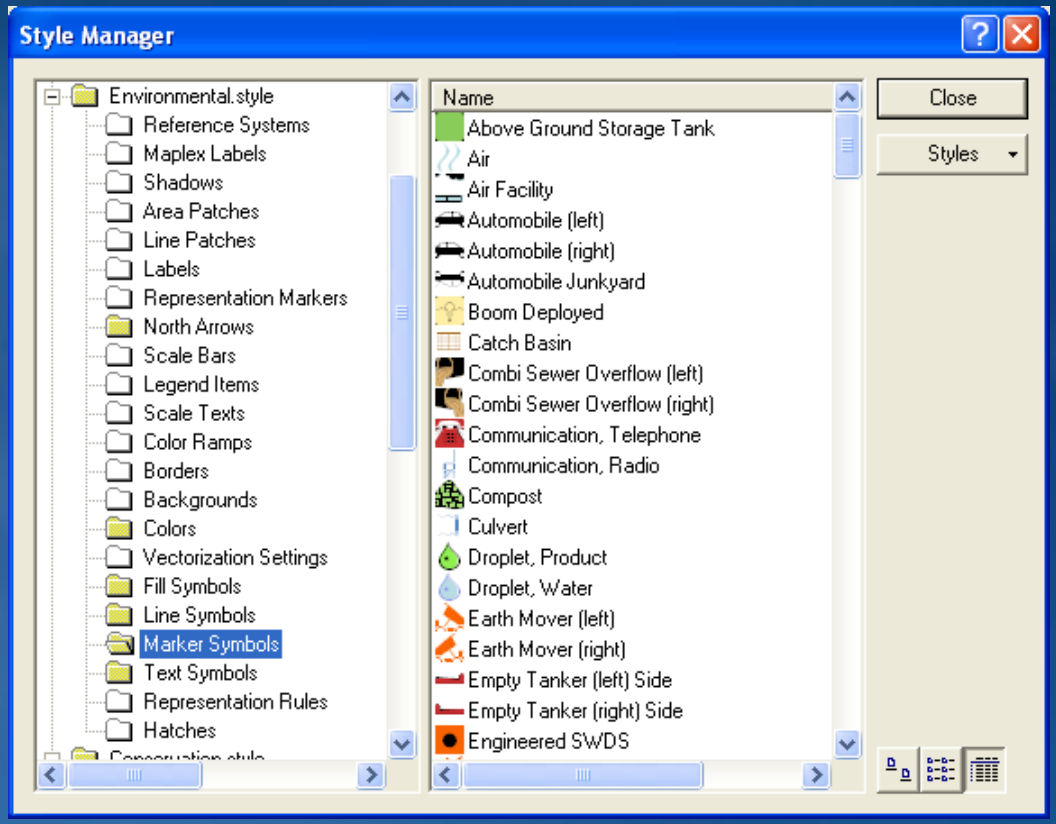
- Central location for creating and editing annotation
  - Draw toolbar can be used for graphic text
- Tightly integrated with feature editing environment



Managing Styles and Symbols

Style Manager

- Organize styles and their contents
- Create a new style or customize some of the styles provided by ArcMap



Demonstration #2

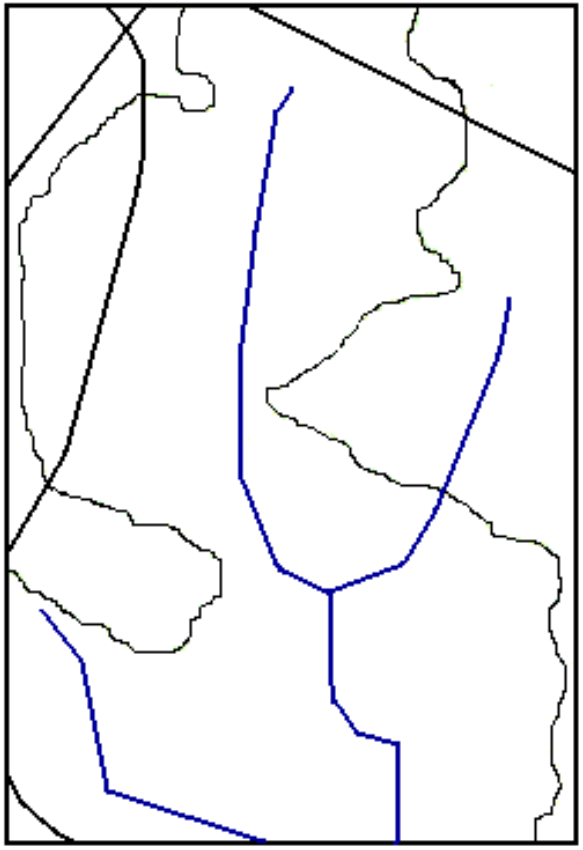
Questions?

Cartographic Representations

- Store alternate geometry used only for symbology
  - Stored inside the geodatabase
  - Two fields: RuleID, Override
- Flexible rule-based structure
- Edit appearance of individual features
  - Feature representation
- Each simple feature class can have multiple representations
  - Representation and feature class are always linked
- ArcEditor and ArcInfo

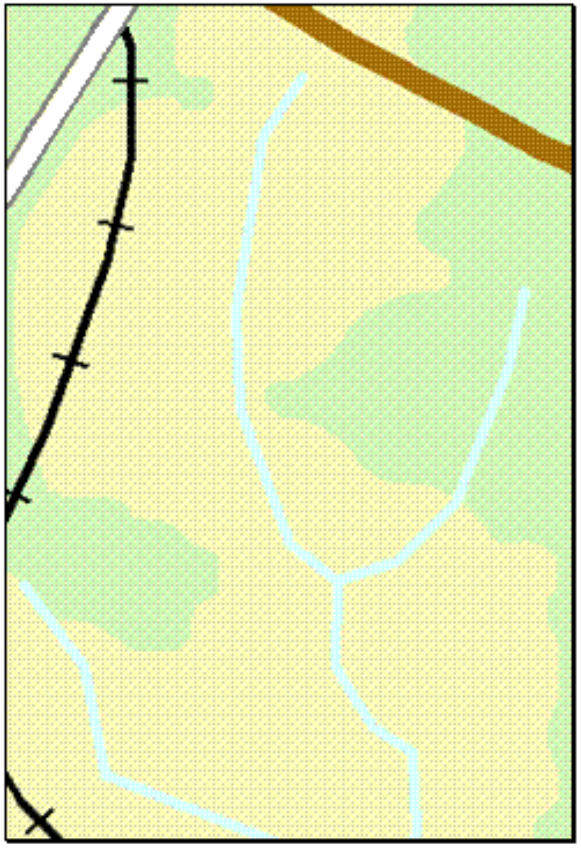
Cartographic Representations

GIS Features



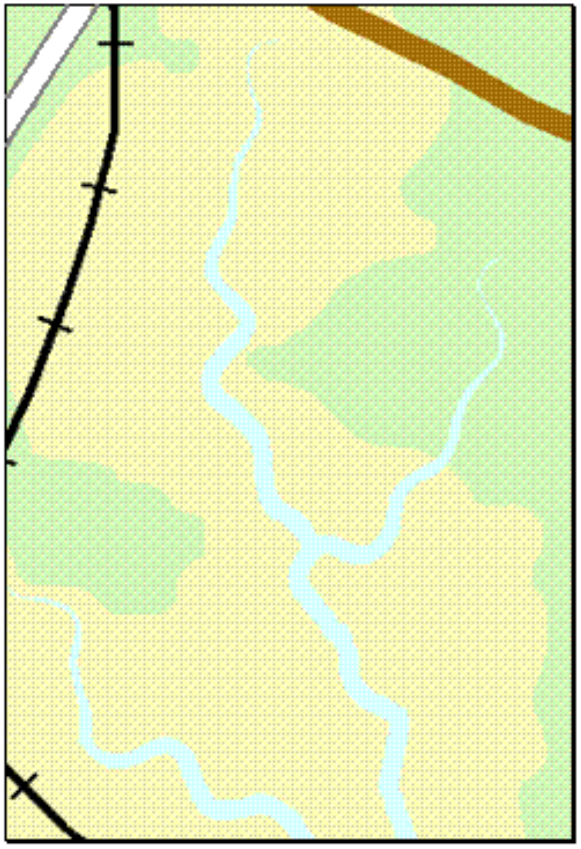
Stream feature geometry shown in blue

Map Layers



An ArcMap layer is used to draw stream features as blue lines

Representations



As an alternative, representations can be used to depict streams with geometry that differs from the stream lines held as GIS features.

Limit the size of your print legend

- Script: Legend Limiter (Search in ArcScripts)
- Automatically limits symbols displayed in a categorized legend to those found in the visible extent
  - Produce maps with relevant legends
  - No more scrolling through pages of legend symbols in the table of contents
  - 9.4 out of the box functionality

ESRI Mapping Center - Windows Internet Explorer
http://mappingcenter.esri.com/index.cfm?fa=home.welcome
Live Search
File Edit View Favorites Tools Help
ESRI Mapping Center
Page Tools

Welcome to Mapping Center

Mapping Center is about ***the use of ArcGIS in the graphic delivery of geographic information***. Its goal is to help you make great looking maps with GIS using the same cartographic concepts and techniques that professional cartographers use.

Current Blog Feeds

Announcing the ArcGIS Data Blog

September and October sure went fast. We on the Mapping Center team have been very busy working on mapping projects, and have not spent as much time here--but we're finding a balance and will be getting more good blogs out here soon (several are in the pipeline).

Now there is a new blog, the ArcGIS Data Blog, that you should subscribe to in order to keep up on what's new with all of ESRI's data--this will give you an advantage by being able to produce better maps because you've got better content to use...(read more)

Globe locator map

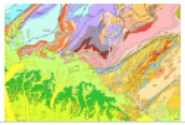
Need to add a quick locator map to your page layout? Want to spice things up a bit? Try this locator map - it has visual appeal because of the 3D appearance (promoted by the choice of projection and the gradient fill). There are just a few basic steps to creating this map: 1) Prepare the data to make the map, 2) create the map, 3) add your area of interest (optional), and 4) export the data used to make the map, if desired (this will save some drawing time for you.)

Note that this is a technique you would want to use only if your area of interest is large enough to be seen on the map, and it is best used when you want the map reader to get an idea of where in the world your area of interest is located....(read more)

Make a map of Washington Elevation - or a similar map for somewhere else!

One of the presentations we gave at this year's User Conference was "The One Minute Cartographer". While we were developing the presentation, we had several intentions in mind. Most importantly, we wanted to demonstrate to the attendees of our session that making a good map in ArcGIS isn't always as hard as it seems - often times, it is just a matter of going one or two steps beyond the defaults. Another thing that was really important to us was to make sure that all of the data we used to produce this map was also available to you through the ESRI Data and Maps DVD. And in addition, we wanted to create a set of resources with great potential to help map makers in a variety of ways: ...(read more)

How to use Geologic Mapping Template symbology with your database schema



A common question we receive goes something like, 'How can I use symbols from the Geologic Mapping Template with my database?' The solution is simple, once you have downloaded the geologic mapping template, follow these steps to add its representation symbology to your geodatabase...(read more)

Mapping Center Web Site

- About Mapping Center
- About the Mapping Center Team
- Getting Started
- Site Map

Mapping Center Blog

RSS

- About the Blog
- Terms of Use
- Submit an Entry

Announcements

Posted September 25, 2009

Hopefully you are all planning on attending the North American Cartographic Information Society (NACIS) annual conference, held this year in Sacramento. The dates are October 7-10. We look forward to seeing you there.

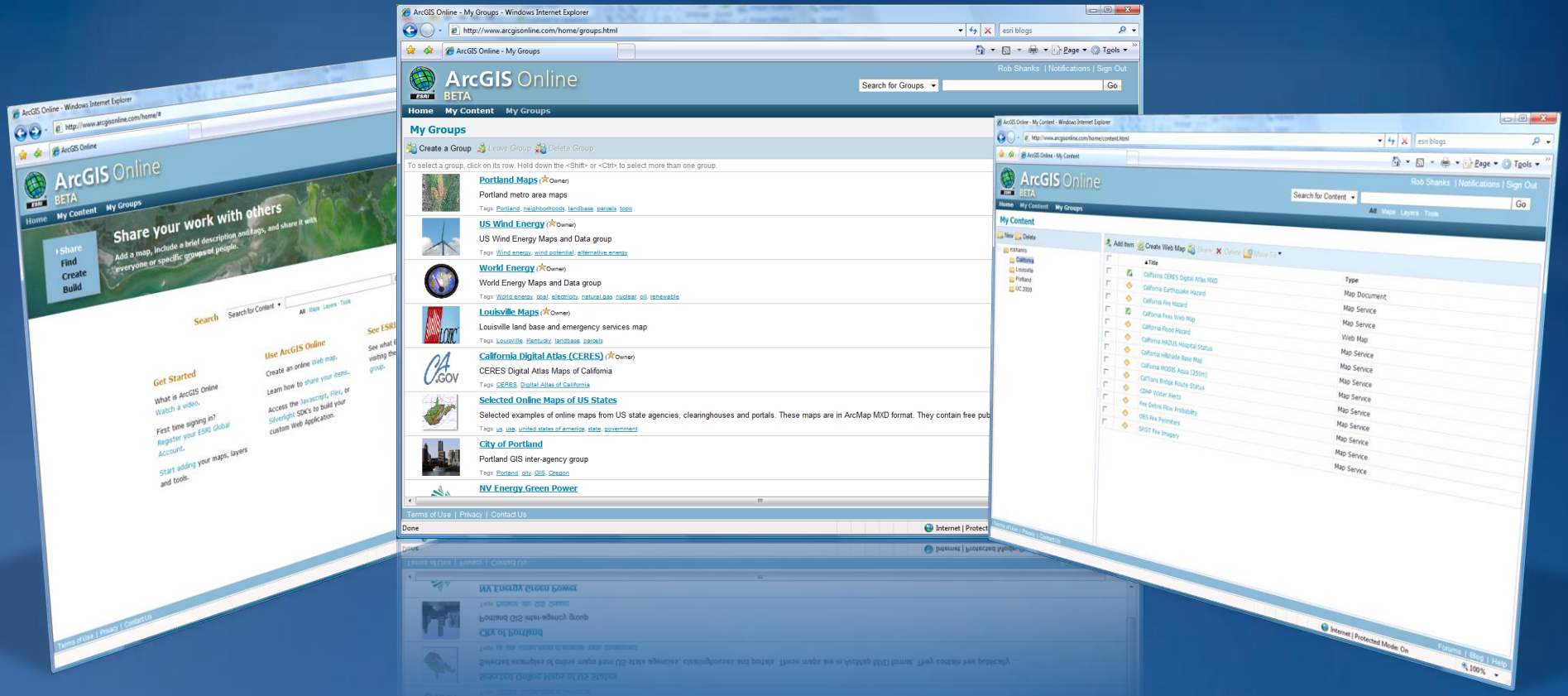
Featured Map

Data Sharing

ArcGIS Online

Explore, Share, and Create GIS Resources

www.arcgisonline.com



ArcGIS Sharing

The Power of GIS is Fully Realized when Results are Shared

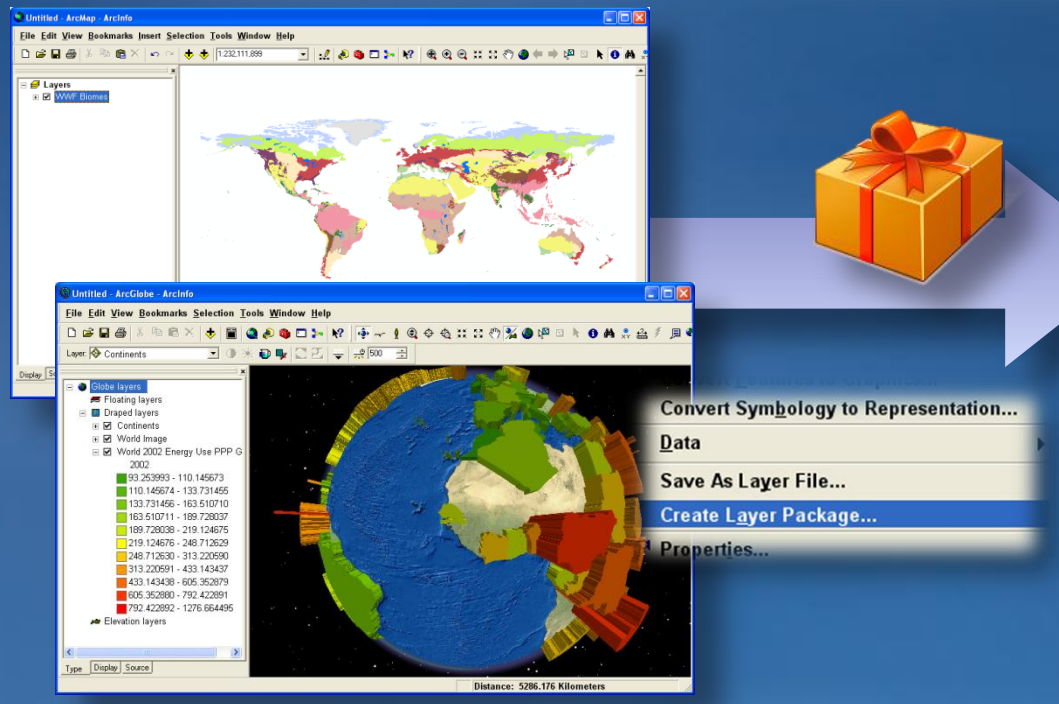
- ArcGIS Online is a way for ArcGIS users to easily organize and share geographic information
- Enables users to easily share GIS data, maps, and tools using ArcGIS Online as the central repository
- Includes ESRI content and user content

ArcGIS Sharing
Collaboration for the ArcGIS Community

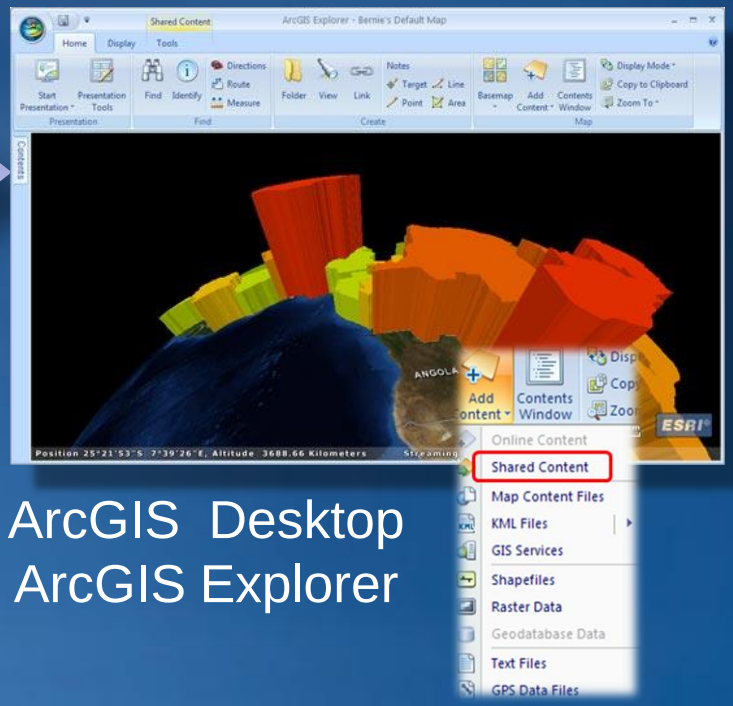
ArcGIS 9.3.1 Layer Packages

Share ArcMap data and cartography with everyone

- Single compact file of data and cartography that is easily shared
- Create using ArcGIS Desktop (ArcMap and ArcGlobe)
- Use in ArcGIS Desktop and ArcGIS Explorer
- Share via E-mail, network, DVD, or ArcGIS Online



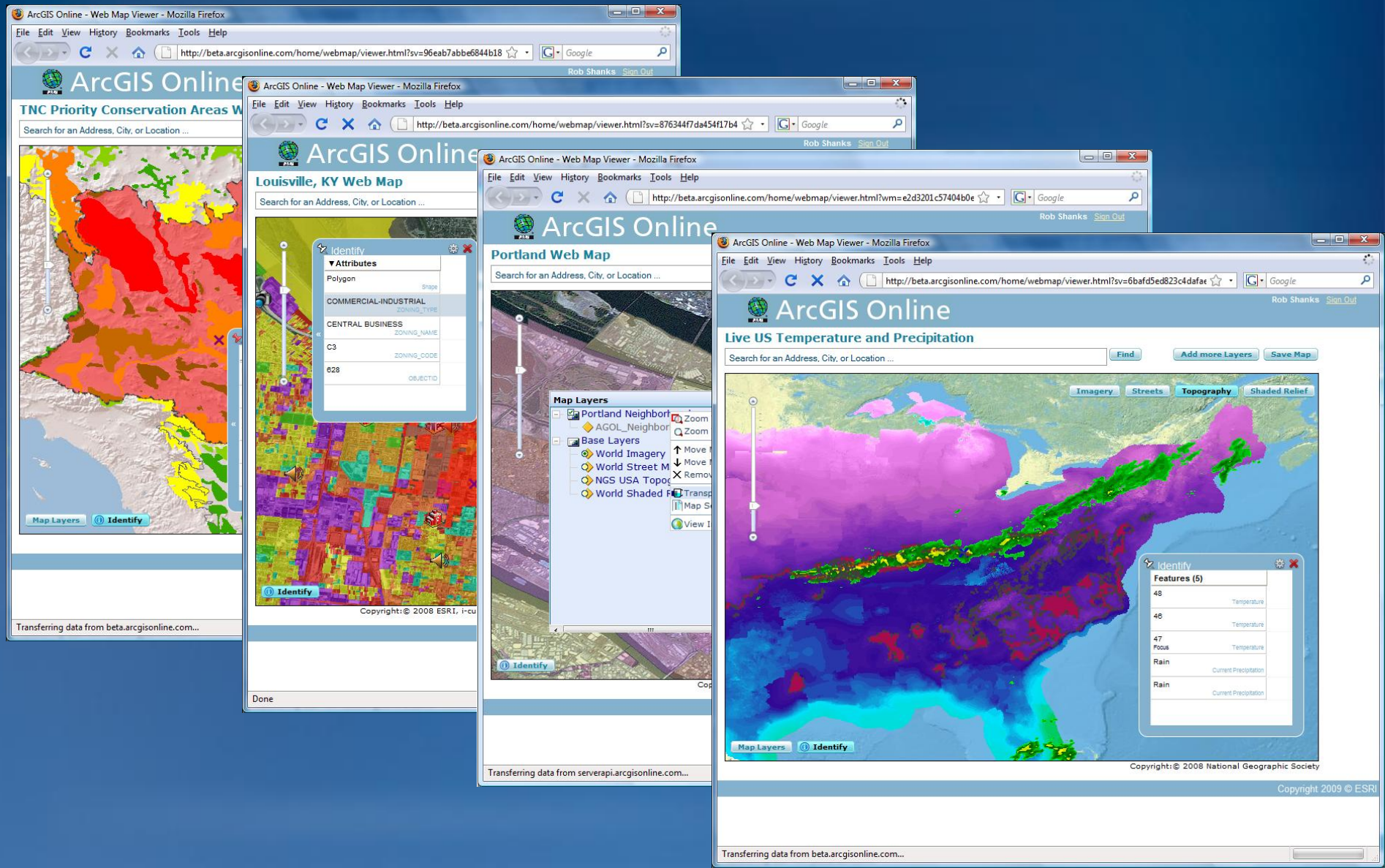
ArcGIS Desktop



ArcGIS Desktop
ArcGIS Explorer

ArcGIS Online Web Maps

Create simple Web Maps with no programming!



Demonstration #3

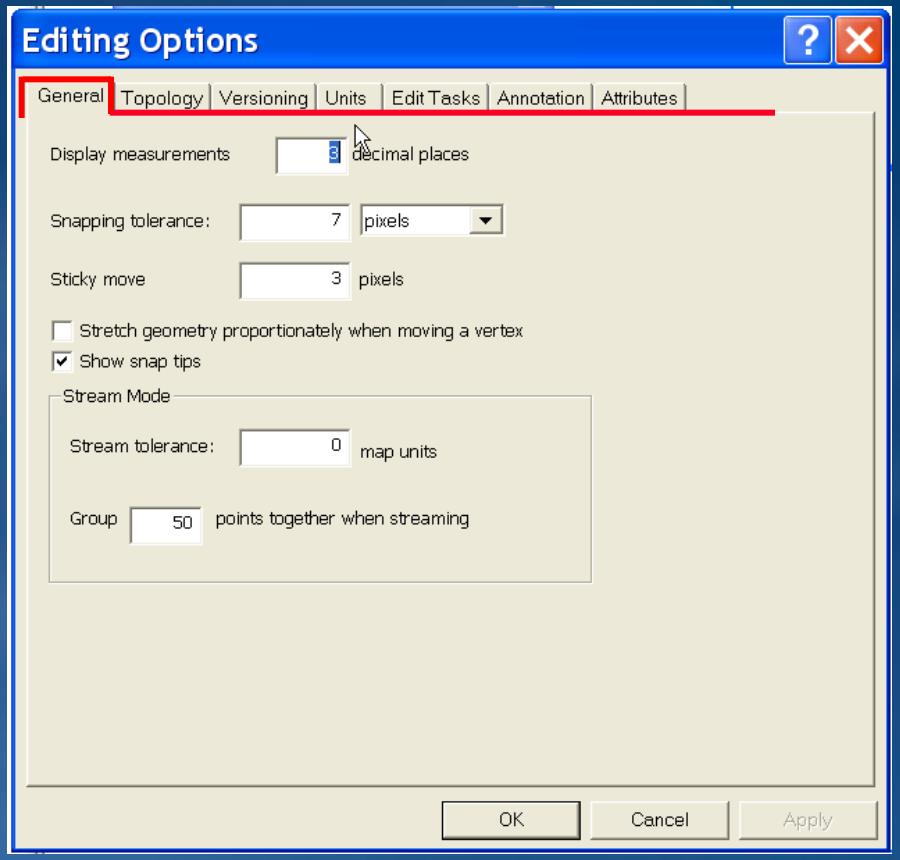
Questions?

Editing Tips and Tricks

- General editing options
- Common edit tasks
- Editing selected features
- Productive editing techniques

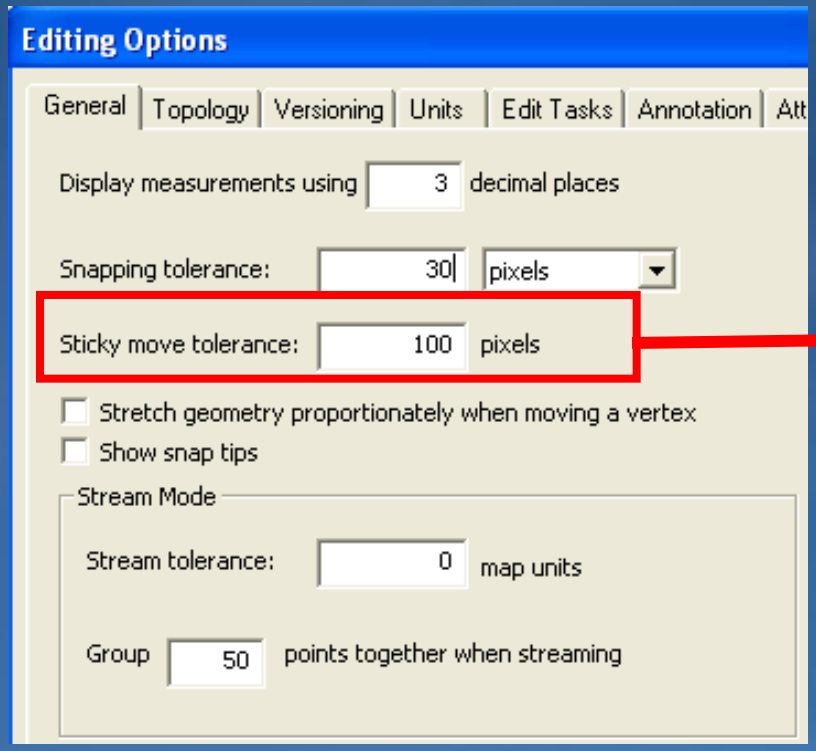
General editing options

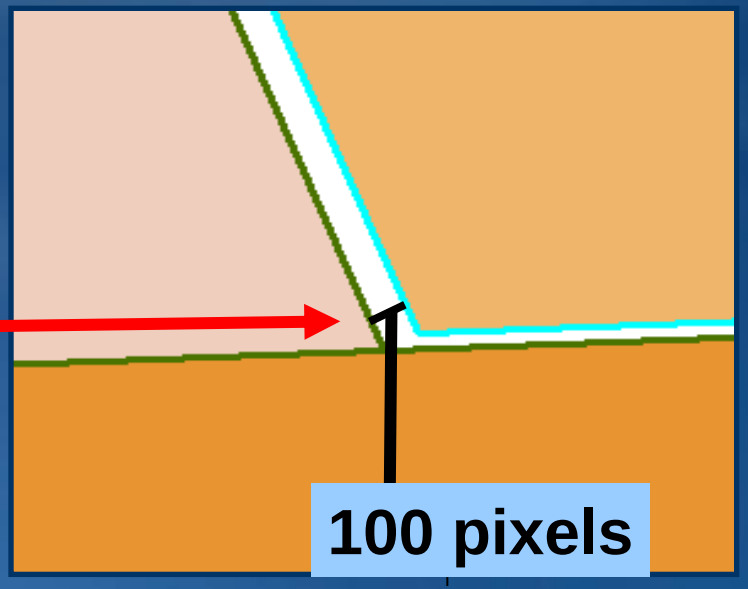
- Display precision
- Snapping tolerance
- Sticky move tolerance
- Showing snap tips



Sticky Move Tolerance

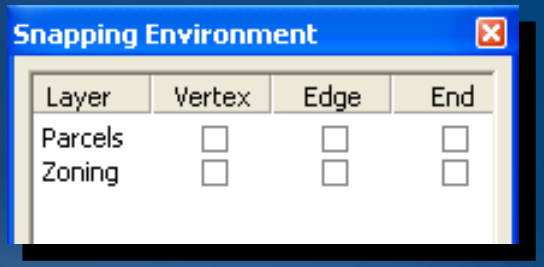
- Helps avoid accidental movement
- Prevents feature movement within tolerance
- Default is zero



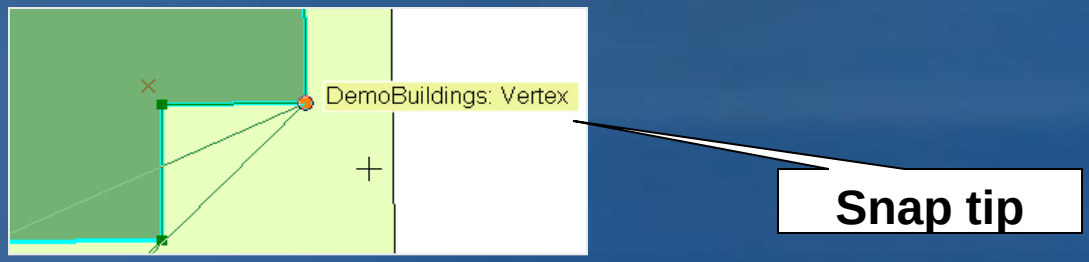


ArcMap Snapping Environment

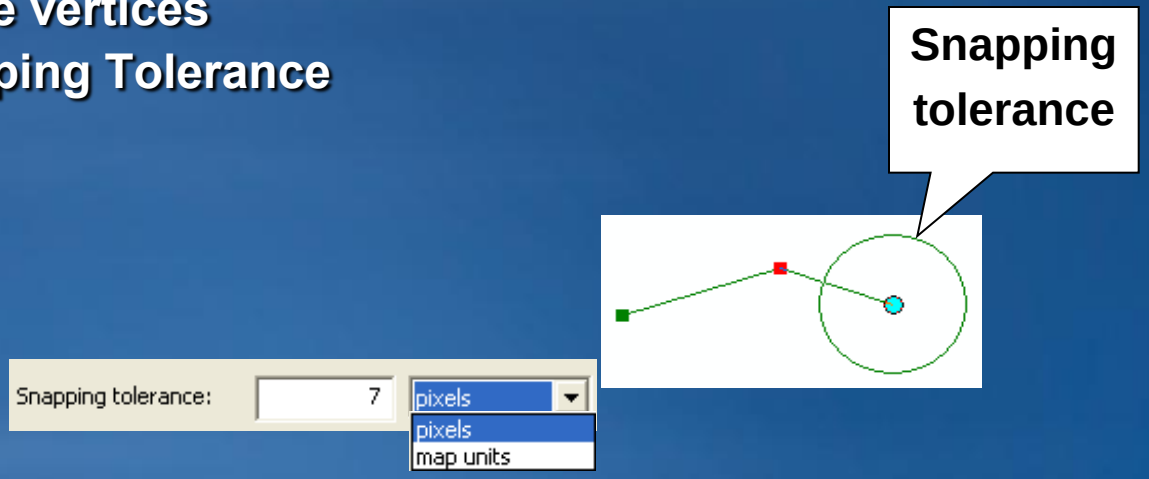
- **Prioritize snap order**
  - Reorder layers in snap dialog (top = highest)



- **Snap tips**

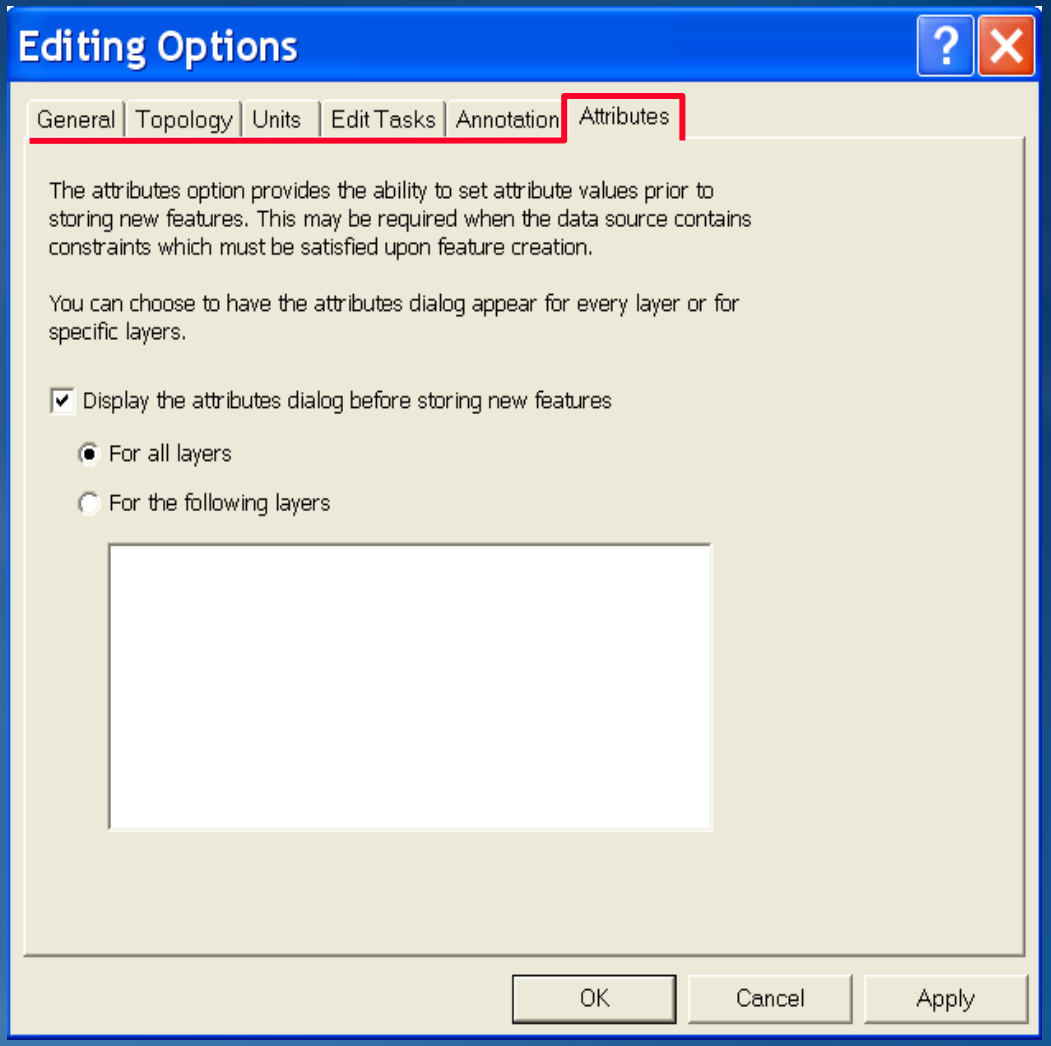


- **Tips:**
  - Press the 'Spacebar' to temporarily suspend snapping
  - 'V' shortcut key to locate vertices
  - 'T' key to view the Snapping Tolerance



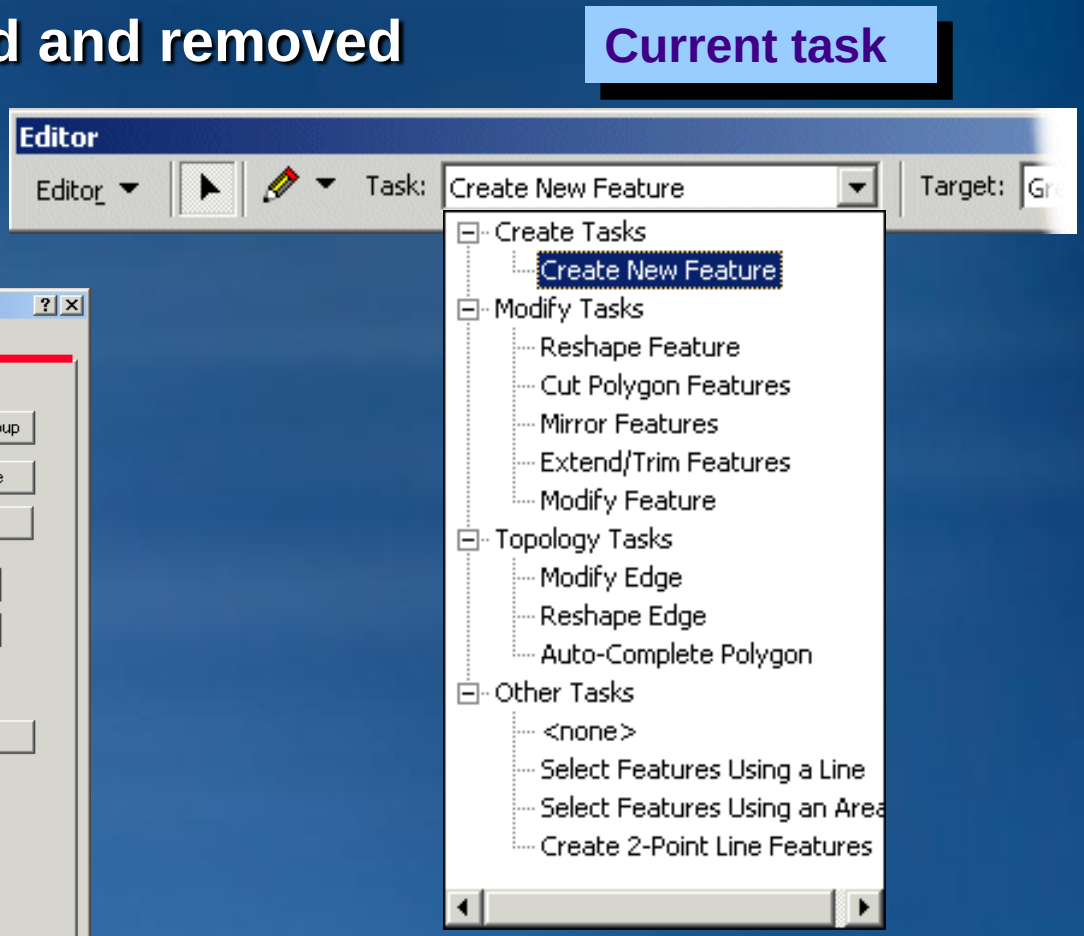
Attribute editing options

- Simultaneously create new features and set attribute values



Edit tasks

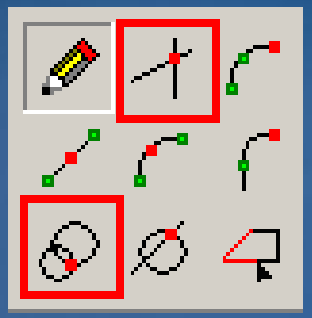
- Sketch tool works with the current task
- Can be reordered, added and removed from list



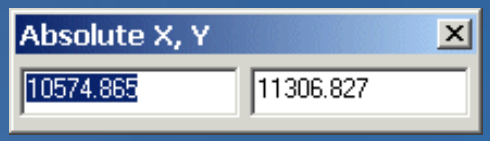
Productive Editing Techniques

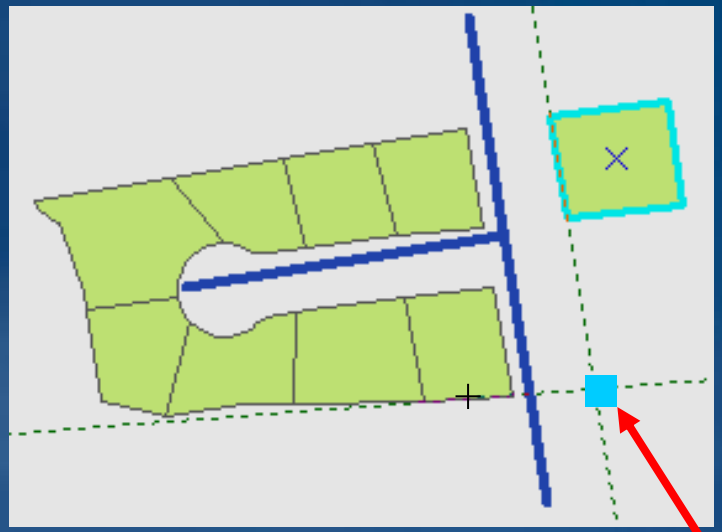
Constructing a vertex or point

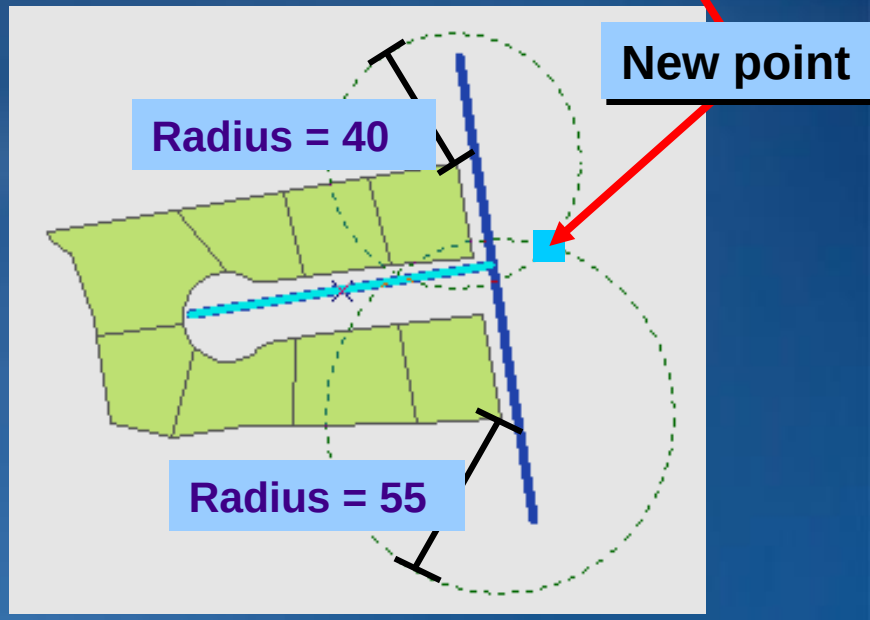
- Intersection
  - Adds a vertex at the implied intersection of two segments



- Distance-Distance
  - Adds a vertex at given distances from two points
- Absolute X,Y

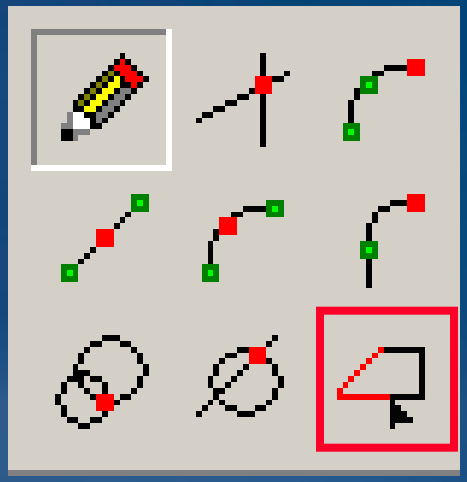


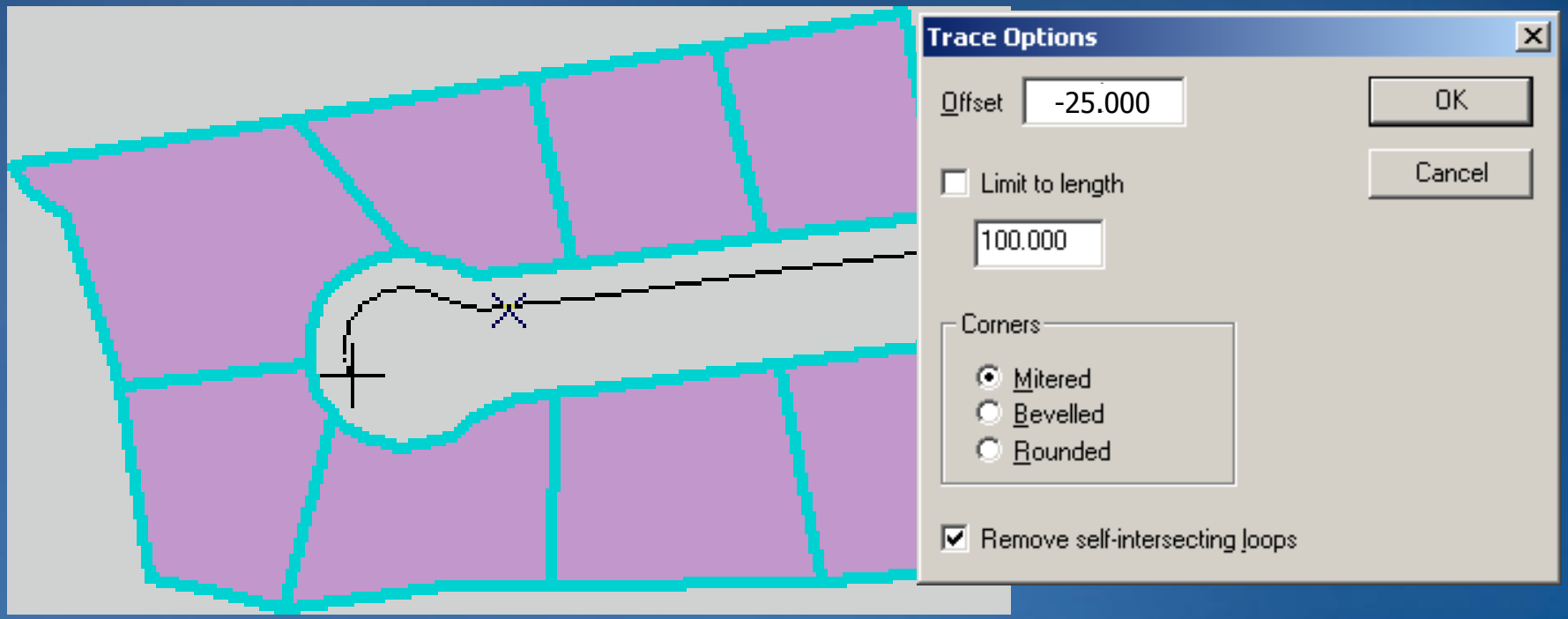




Using the trace tool

- Trace along selected features
- Select features
- Click to start and stop the trace
- Press O to specify an offset
- Used with the Zipper Task





Switching between sketch tools

How can you quickly switch from a sketch tool to another tool and back to the sketch tool again……..

Use shortcut keys: E, C, X, Z

- **Use the "E" shortcut key to toggle between the Sketch tool and the Edit Tool.**
- **Use the "C" shortcut key to pan**
- **Use the "X" shortcut key to zoom out**
- **Use the "Z" shortcut key to zoom in**

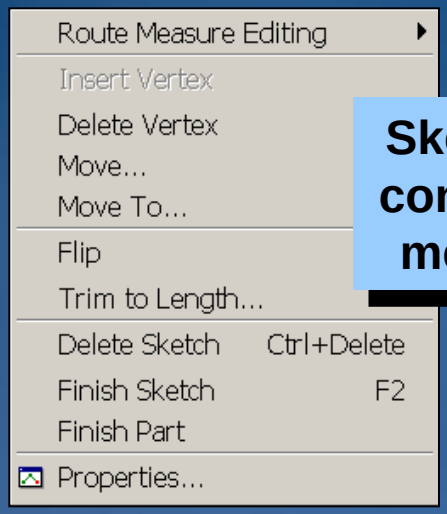
▼ Shortcuts common to all editing tools

Shortcut key	Editing function
Z key	Zoom in
X key	Zoom out
C key	Pan
V key	Show vertices
Esc	Cancel
Ctrl + Z	Undo
Ctrl + Y	Redo
Spacebar	Suspend Snapping

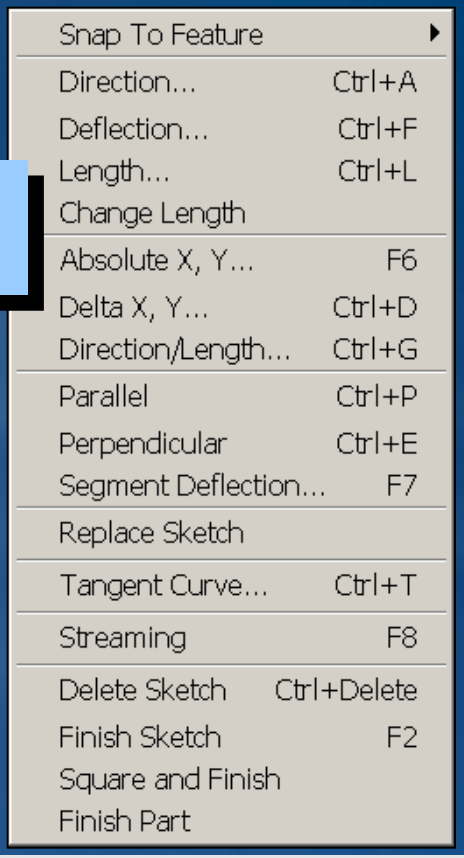
To see a list of all the editing shortcut keys, in ArcGIS Desktop help, on the Index tab enter "*shortcuts, for editing in ArcMap*"

Sketch context menus – Sketch constraints

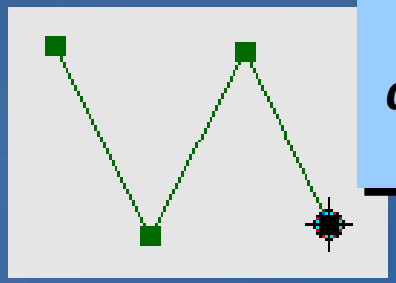
- **Right-click is location sensitive**



Sketch context menu

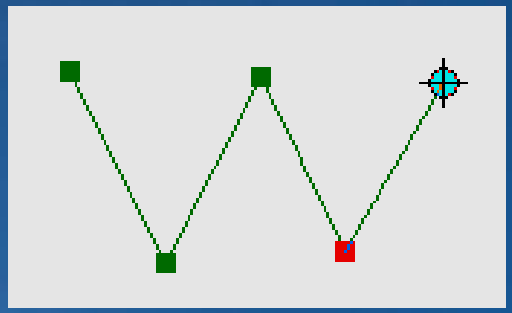


Sketch Tool context menu



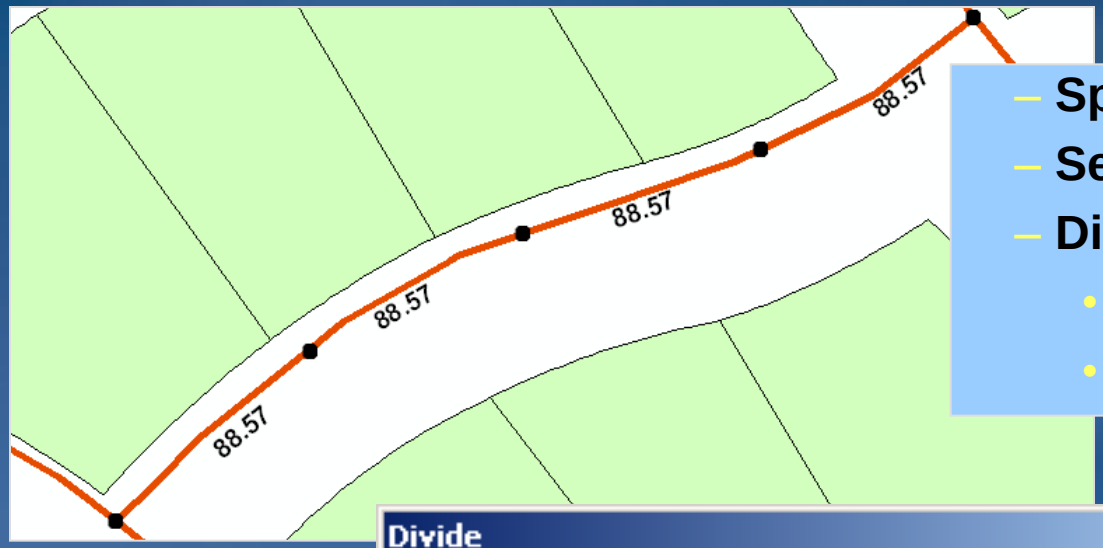
Cursor *directly over* last vertex

Cursor *away from* last vertex

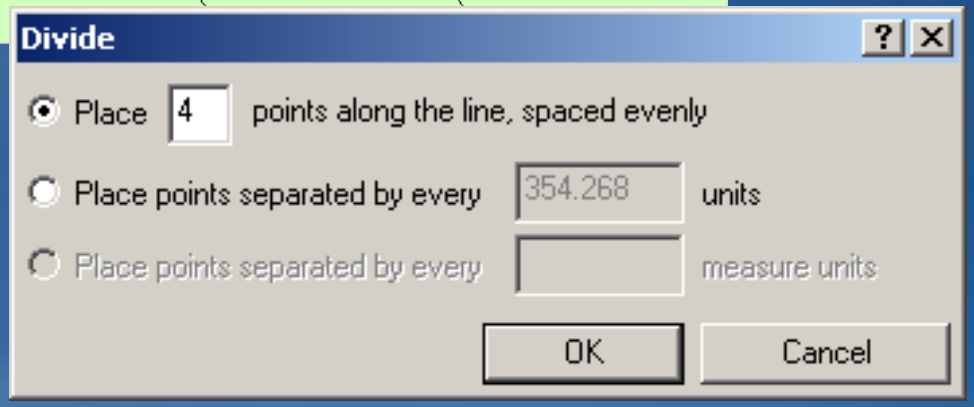


Divide

- Creates features at a given interval along a line
  - Can specify number or distance

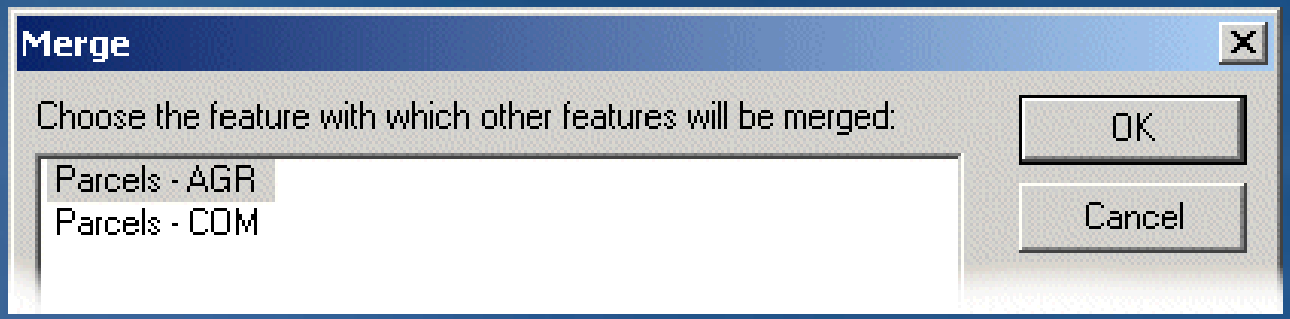


- Specify line feature class
- Select target line feature
- Divide command
  - *Place 4 points along line*
  - Click OK



Combining Features

- Merge
  - Combine features in the same layer
  - Modifies original feature



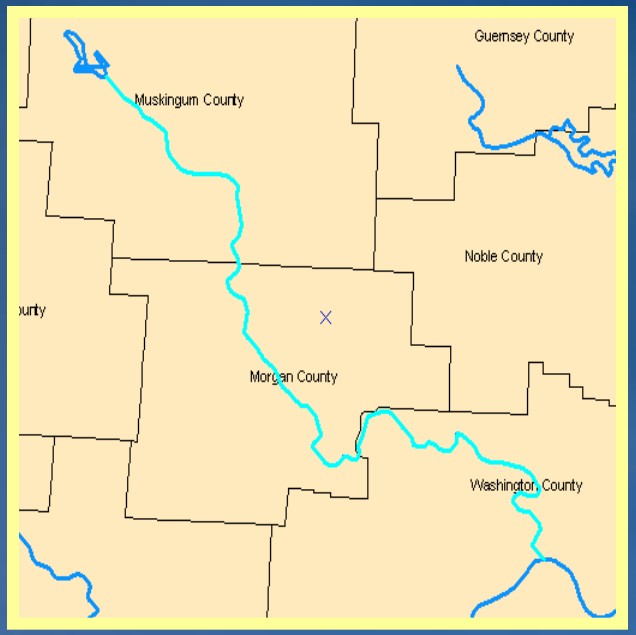
Union and Intersect

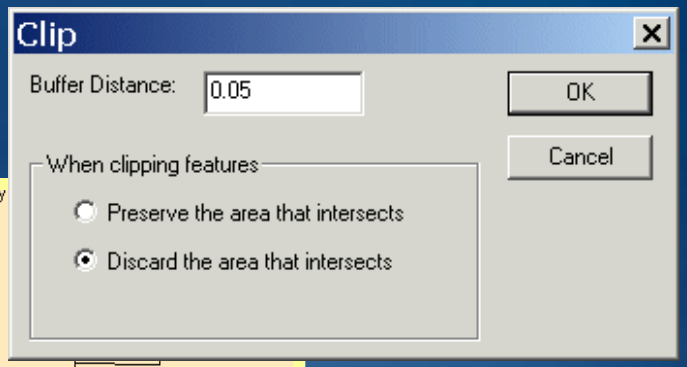
- Create features in a target layer
- Does not delete original features
  - Union

  - Intersect

Clip

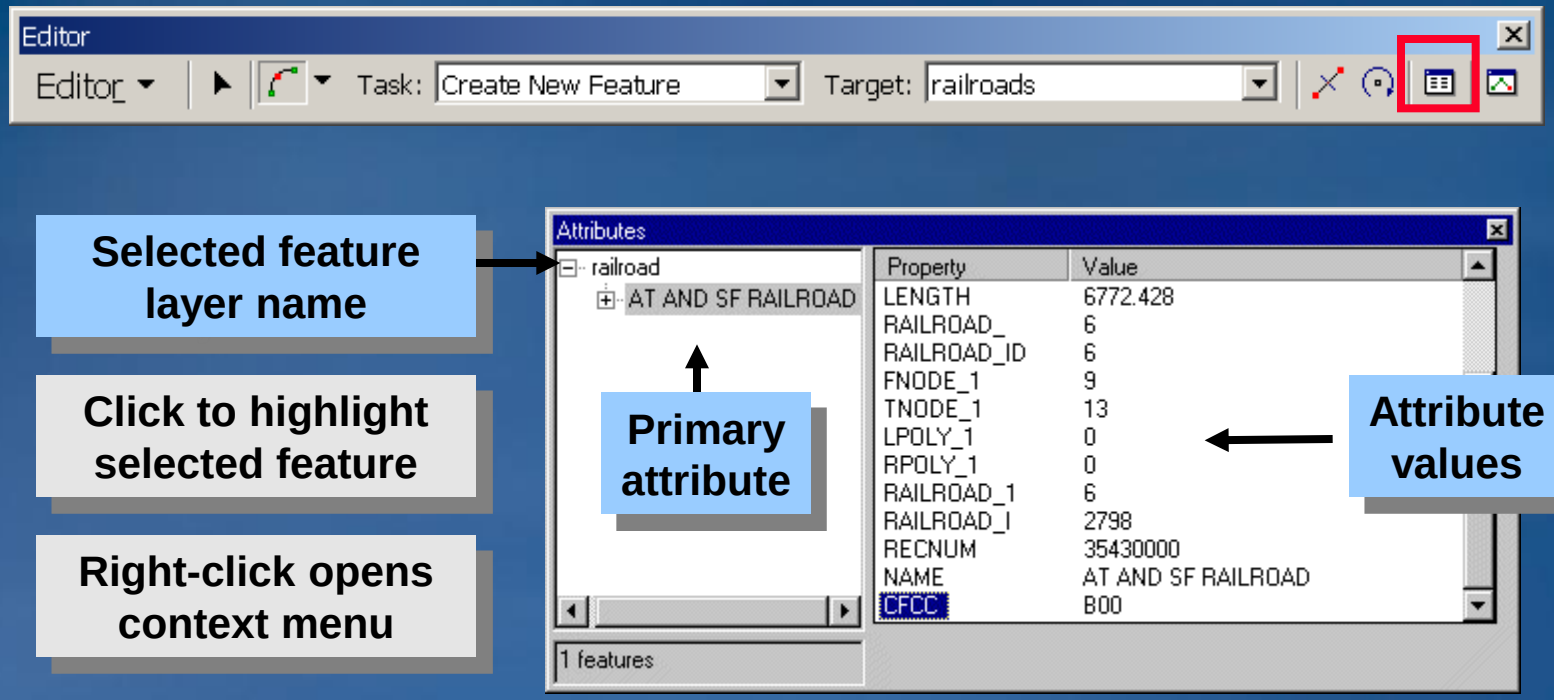
- Uses buffer distance
- Preserve or discard clipped region





Editing attribute data for selected features

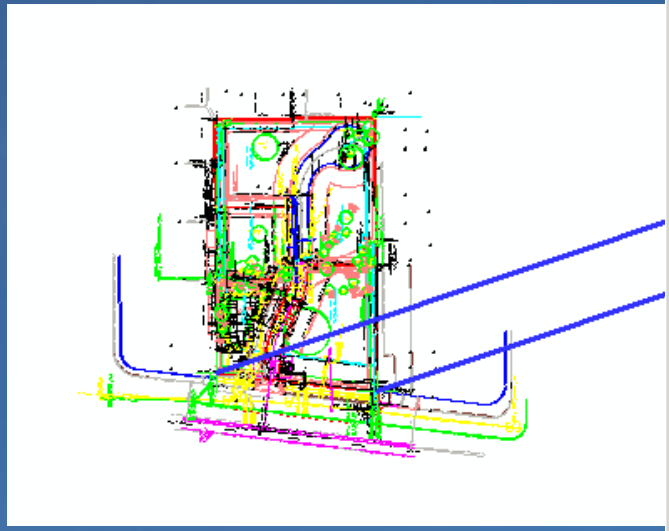
- Attribute dialog allows viewing and editing of selected feature attributes

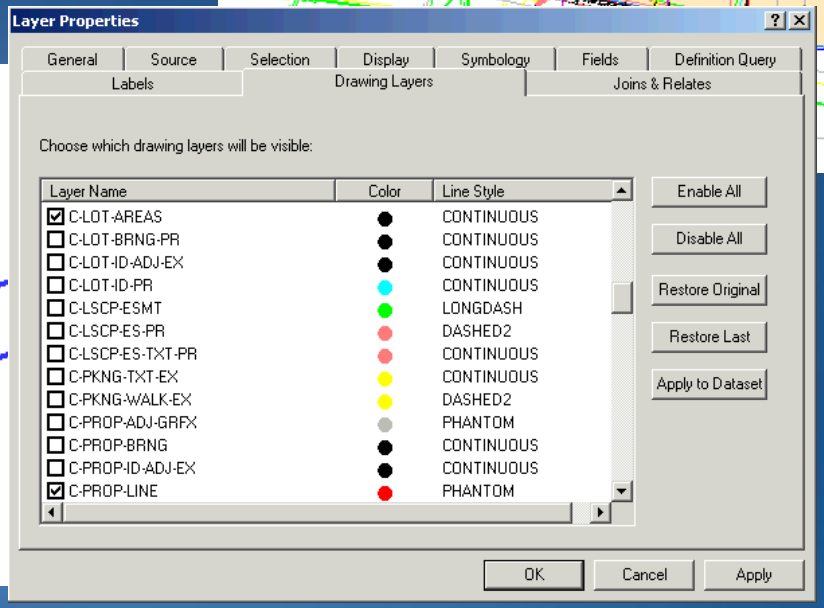


- Add or copy/cut and paste values for single or multiple selected features

Georeference a CAD file

- Direct read CAD data as formatted drawing or features
- Snapping to CAD and features
- Select specific layers to display, then copy and paste into layer

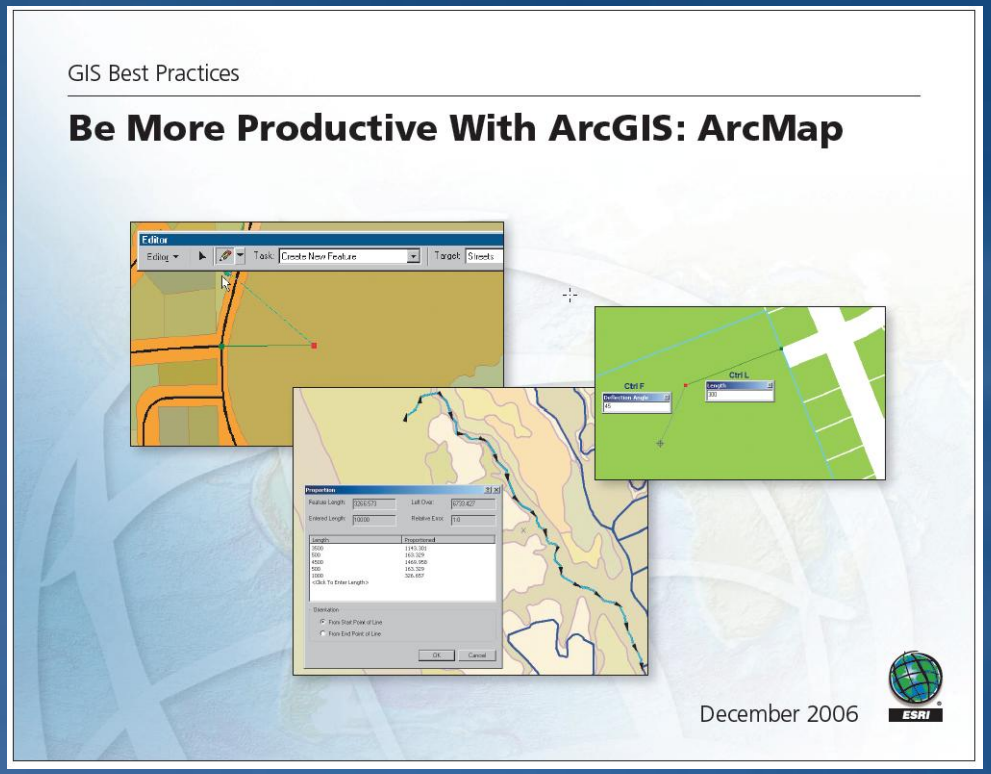




Why can’t I start Editing?

- Permissions
- Folder or workspace is set to read–only
- Lock files
- Licensing
  - ArcView cannot edit topology, feature–linked annotation, etc.
- Field Calculator is not enabled (grayed out)
  - Feature classes that participate in topology or network cannot be updated outside of an edit session

Workflows & Common Tasks



- **Whitepaper:**
  ‘Be More Productive with ArcGIS Desktop’

Map Optimization in ArcGIS 9.3.1

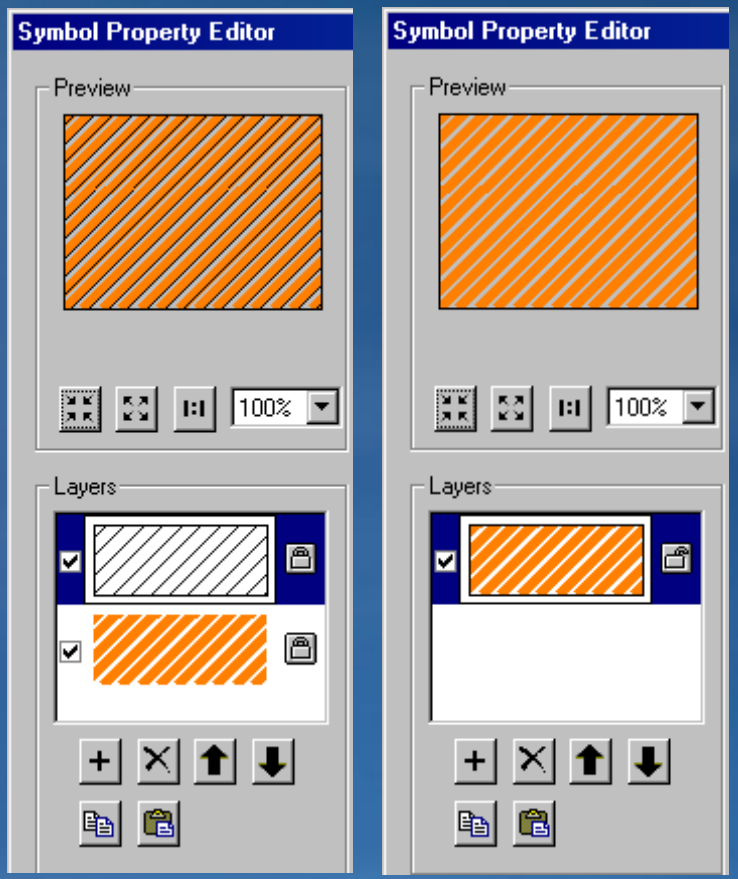
Overview - Interactive maps

- What is an interactive map?
  - Map that will not be printed
  - Must respond quickly to end user requests like navigation and query
- Where are interactive maps used?
  - Web based maps
    - Common operating picture for managers
    - Public parcel query map
  - Maps for editing and analysis

Defining fast, effective symbology

- Keep it simple and focused on the audience
- Consider using the ESRI_Optimized style

esri.style



esri_optimized.style

Identifying components causing poor performance

- Users will be frustrated if map rendering time is slow in interactive maps
- Use Map Service Publishing toolbar to optimize content
  - Suggestions to aid the drawing performance in ArcMap and the Web

Only available with 9.3.1

Demonstration #4

Questions?

Thank You!

Enjoy AGIC!!!

Demo requests?